

AKRON DISTRIBUTOR REPORTS SALES GAIN

(Concluded from Page 1, Column 4) spending rather than saving as so many did in the past.

"Our porcelain models are selling two-to-one better than dulux models. This morning we closed two commercial sales here in Akron. They were restaurants, and the equipment was food refrigeration, not beer cooling."

Two of the refrigerator salesmen in Akron have been hitting hard since April 1, according to Mr. Longwell.

J. H. Shaver, on duty on the electric shop floor, sold five models one morning. Four were porcelain and one was dulux. Of the porcelains, two were 7-ft. models, one was a 9-ft., and one was a 12-ft.

B. E. Camp, working outside, closed 15 orders in the first 13 days. Five were dulux models, 10 porcelain.

2 Cleveland Salesmen Average 4 Sales Daily

CLEVELAND—Louis Prehn and Harry Woodbury, the two floor men at the Cleveland Frigidaire branch Euclid Ave. showroom, have averaged four sales a day on the floor for the first 13 days in April, according to H. H. Kennedy, district manager of the Frigidaire Sales Corp.

This record is typical of activity in the Cleveland district since the first of the month, Mr. Kennedy states. In the opinion of Salesmen Prehn and Woodbury, the public attitude is better now than at any time since the early half of 1929.

In addition to the floor sales, these men have turned over to salesmen in metropolitan Cleveland residential territories many floor leads that have resulted in immediate sales, according to Kennedy. One outside salesman, W. F. Burke, has closed one sale for every working day since April 1.

Reports from Territory

Reports from other parts of the Cleveland territory are equally encouraging, the district manager points out. Typical of such reports are the following:

Toledo—650 visitors at Lion store, many sales, mostly in the super-series 7-cu. ft. and 9-cu. ft. models; 700 visitors at Toledo Edison Co. electric shop.

Elyria—15 floor sales at the Ohio Public Service Co. shop.

Canton—17 new household models sold in three days by Worth C. Myers Co.

East Liverpool—Trotter Hardware Co. recorded two sales the first day the line was on display.

East Palestine—three sales first day by Irwin and McCommon.

Carrollton—five sales first two days by Willard Householder Co.

General Improvement

"The improvement has been general so far as city, urban, and rural sections are concerned," states Mr. Kennedy. "In the list above, East Palestine, East Liverpool, and others are rural trading communities. Several of the larger cities can be classed as 'industrial communities'."

The buying trend is very definitely toward porcelain in the middle-sized models, it is stated. Approximately 60 per cent of the sales in Cleveland proper were of 6-, 7-, 9-, and 12-ft. models.

Wildermuth Handles Kelvinator in N. Y.

BROOKLYN—E. A. Wildermuth Co. has been appointed distributor for Kelvinator electric refrigerators in the following districts in the New York metropolitan area: Manhattan, Bronx, Kings, Queens, Nassau, Suffolk, Richmond, Westchester, Rockland, and the southern portion of Fairfield county.

The firm is also distributor for Atwater Kent radios and ABC washing machines.

G. E. Stores Food for 152 Pets

HUDSON, N. Y.—This town's John A. Patterson likes pets so well that he has 152 of them—two parrots, three dogs, four love birds, 18 canaries, and 125 pigeons.

But until recently, they gave Mr. Patterson plenty of cause for worry. He couldn't keep his pets' food properly.

Then he bought a General Electric refrigerator. He says: "My pets' food is always good now, and it's so much less bother than it was before."

MAYFLOWER BUILDS TWO LOW-PRICED MODELS

(Concluded from Page 1, Column 3) on the 5-cu. ft. porcelain model, \$10.50 on the 6-cu. ft. porcelain model, \$5 on the 7-cu. ft. porcelain model, and \$45 on the 11-cu. ft. porcelain model.

Detroit Majestic Distributor to Discontinue

DETROIT—Directors of the Detroit Electric Co. and its affiliate, the Detroit Majestic Products Co., distributor of Majestic refrigerators and radios, voted to discontinue the operation of the business at a meeting here April 1.

The Detroit Electric Co. was formed more than 50 years ago as a wholesaler of electrical supplies. When radio came into prominence it closed out other electrical lines to concentrate on radio, but later took on electric refrigerators.

The firm maintained general offices at 101 E. Jefferson Ave. here and a retail store on Grand River Ave. A sales branch has been operated in Grand Rapids for a number of years.

Officers of the company were Harry Abrahamson, president and general manager; R. R. Abrahamson, secretary and treasurer; C. T. Drake, manager of the radio department; and Larry E. Hodge, manager of the appliance department. J. A. White was manager of the Grand Rapids branch.

WOMEN TO AID AT CINCINNATI EXHIBIT

CINCINNATI—Through the women's division of the Cincinnati Electric club, the aid of the various women's organizations in Greater Cincinnati has been solicited for the distribution of tickets to the Electrical Progress Exposition to be held in Music Hall, Cincinnati, May 8 to 13. The exposition is sponsored by the Electric club and the Cincinnati Times-Star.

The entire gate receipts have been pledged to recognized relief organizations in the three counties in Greater Cincinnati: Hamilton County, Ohio, and Kenton and Campbell Counties, Kentucky.

As an inducement to the women's organizations, prizes will be awarded to the groups sending the most visitors to the exposition. An electric food mixer will be a daily prize, and a major electrical appliance will be selected as the grand prize for the week.

The tickets distributed are not to be sold, but when presented at the door, will admit the visitor for 10 cents. This money will go to the relief fund. Admission without the ticket will be 25 cents. This also goes to relief work.

To Aid Dealers



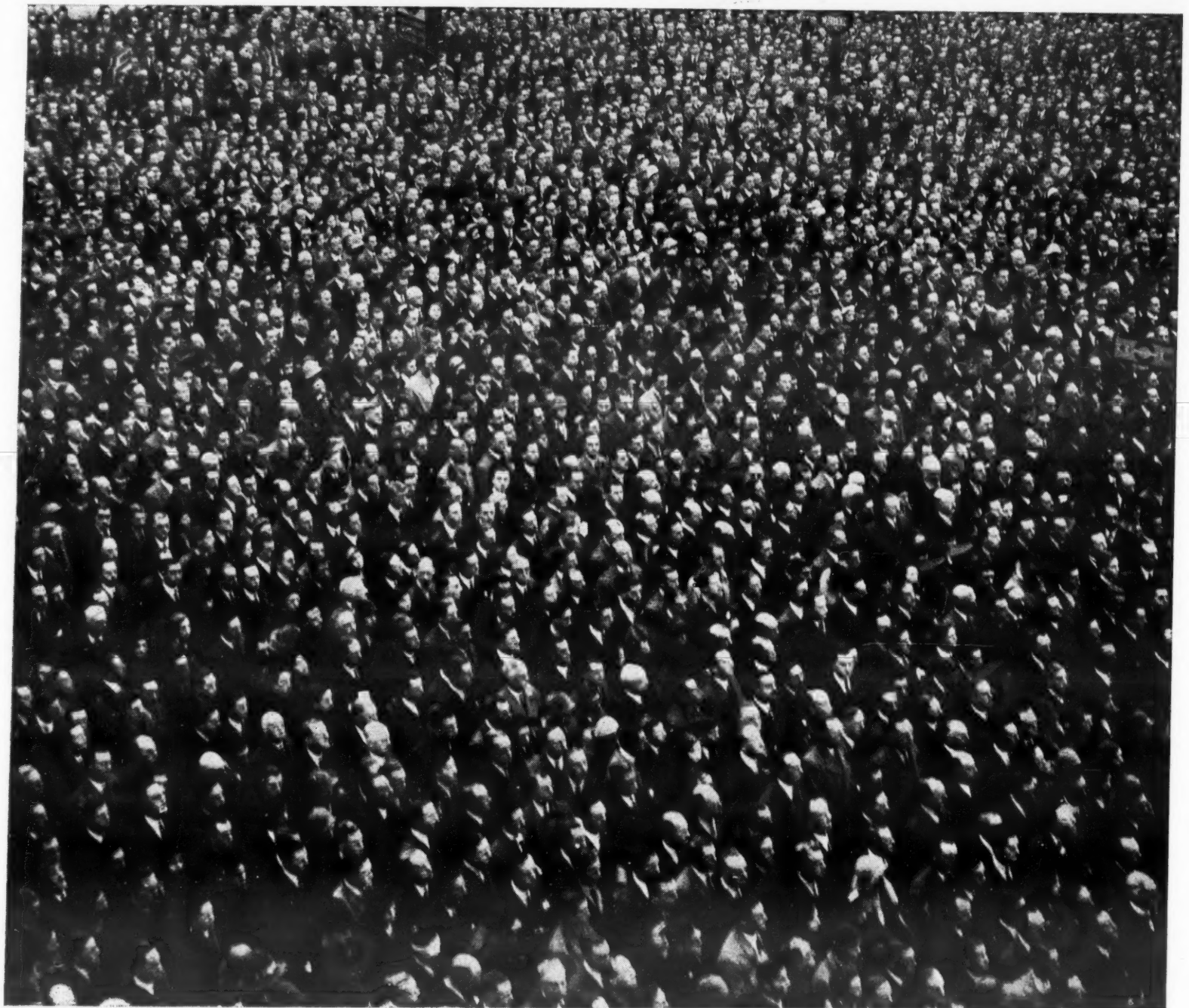
H. M. BUTZLOFF
Will assist Westinghouse dealers in the northwestern district with sales promotion work.

PRODUCTION STEPPED UP ON G. E. MODELS

(Concluded from Page 1, Column 5) refrigerators are reporting that store traffic during the past 30 days has exceeded the total for the previous nine months, with similar increases in sales.

"In Chicago, 351 refrigerators were delivered in one day the past week. Boston reports the biggest retail day in history. New York retail sales have been running 100 per cent ahead of last year for the past three weeks. Nashville has booked more dealer business in one day than for the previous two months. Cash sales have notably increased in Baltimore, while distributors in such points as Buffalo, Newark, St. Louis, Philadelphia, and Washington, are reporting unusual increases in store traffic.

"We have started a campaign to double our retail outlets for refrigerators, ranges, and dishwashers and are tying this campaign in with an aggressive merchandising, sales promotion, and advertising campaign. We believe the activity during the last few weeks has resulted from a number of causes, principally due to increased feeling of optimism over general business conditions."



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DIRECT COOLING SYSTEM USED IN HOLLAND COOLER

Larger Machine Used For Home Air Conditioning

By John T. Schaefer

HOLLAND, Mich.—Direct expansion of refrigerant into a copper finned coil has been adopted for the home air-conditioning systems which the Holland Furnace Co. is manufacturing this year, according to V. W. Cherven, chief engineer of the company. This will replace the indirect system of cooling air by means of a refrigerated water spray which the company used on last year's systems.

Operation of a direct expansion system will eliminate certain refrigeration losses in insulation of the water-cooling system and connecting pipe lines, Holland engineers state, and will produce a faster pull-down of air temperature when the machine is started, as well as improving the dehumidifying action of the system.

The company is also planning to use 5-ton refrigerating machines extensively this year, instead of 2- and 3-ton machines which were used last year. Universal Cooler equipment has been adopted as standard.

Between 4,000 and 5,000 domestic air-conditioning plants have been installed by the Holland organization since the system was first brought out in November of 1931. About 1 per cent of these were equipped with mechanical refrigeration, the remainder being installed in communities with a water supply that was considered cold enough to cool the air in summer without refrigeration.

Water temperature readings were taken throughout the country last summer by the Holland field organization.

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BAKER WILL LICENSE 'DUAL' DISTRIBUTORS

OMAHA—Commercial refrigeration distributors who are fitted by engineering training and installation facilities may be franchised to handle Baker industrial machines from 1/2 ton to more than 100 tons of refrigeration capacity, according to new plans just announced by J. M. Fernald, general manager of the Baker Ice Machine Co.

Some commercial distributors have frequent opportunities to sell equipment in the large tonnage sizes, Mr. Fernald points out, particularly for air-conditioning and beer-cooling applications.

Engineering data and direct sales help from the factory will be available to the distributor's organization under the new plan, Mr. Fernald states.

WASHINGTON REFUSES TO EXEMPT METHYL CHLORIDE

WASHINGTON, D. C.—By a vote of four to one, the District of Columbia commissioners' committee on refrigeration recently refused to grant a request that methyl chloride be exempt from sections 505 and 615 of the District's refrigeration code.

These sections provide that in air-conditioning systems, no part of the equipment containing refrigerants shall be exposed in the air-circulation system, that liquid cooled by an irritant or flammable refrigerant shall not be used in a spray to cool or condition air, and that any refrigerant harmful to health and not readily apparent to human sense must contain some substance making it noticeable where amount used in a system exceeds six lbs.

389 Refrigerators Sold In Utility Drive

SPRINGFIELD, Ill.—During its March sales campaign, Central Illinois Public Service Co. here sold 389 electric refrigerators, a larger number of sales than was made during the same period in 1932, according to M. R. Rodgers, in charge of the utility's sales drive.

Brewing Sales Points



Salesmen of Listenwaller & Gough, Inc., southern California Kelvinator distributor in Los Angeles, welcome the return of legalized beer.

Detroit & New York Engineers Discuss Beer Cooling, Kero-Units & Storage

DETROIT—John Wyllie of Kelvinator Corp. spoke on beer cooling, and Elmer Born, service manager of Gibson Electric Refrigerator Corp., discussed kerosene-operated absorption refrigerators before 100 engineers who met April 24 for the regular meeting of the Detroit section, American Society of Refrigerating Engineers. Attendance was largest of the year.

Citing the enormous potential market for beer-cooling equipment, Mr. Wyllie told the engineers that among the outlets which may consider beer retailing are 279,000 grocery stores, 79,000 confectioneries, 56,000 drug stores, 111,000 restaurants, 7,000 clubs, and 21,000 hotels.

Chief types of beer-cooling equipment are bottle coolers, draft beer coolers, beer case coolers, and keg coolers, he explained.

Bottled beer is usually delivered to retail establishments at room temperature, and is then placed in the cooler, Mr. Wyllie said. One type of cooler which may be used is the submersion type.

This type consists of an insulated tank filled with water which is cooled by direct expansion, it was explained. In such a cooler, the bottles are cooled by direct contact with the cold water.

Principal objection to this type of cooler is that the bottle labels are frequently soaked off, but such coolers are in wide use, according to the Kelvinator man, because the bottled beverage may be thoroughly cooled in about one hour.

Another bottle cooler is of the dry type, in which the water bath is displaced by cooling units. Cooling with such equipment is slower than in the submersion type, however, because heat transfer must take place through an air space, said Mr. Wyllie.

Dry-type coolers are necessarily larger than the submersion type because they must have sufficient capacity to house the cooling units.

Considered by some persons as a disadvantage of the dry-type cooler is the fact that temperature control is rather difficult, Mr. Wyllie pointed out. To secure a fast cooling speed, the coil must be at low temperature, and this temperature may be sufficiently low to freeze the beer after it has been cooled.

Taking up a discussion of coolers for cases of beer, Mr. Wyllie said that such apparatus may be necessary in some states if their legalization acts provide that beer be sold by cartons.

Cases of beer may be cooled in a storage refrigerator, which is a part of the bar or is located in the basement, he stated. Cooling cases will require considerable time unless the forced convection system of cooling is used,

he said, as the latter method forces cold air between the cases constantly.

Mr. Wyllie explained that there is considerable difference between draft and bottled beer. The latter is pasteurized.

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New York Meeting

NEW YORK CITY—George A. Horne, vice president of the Merchants Refrigerating Co. of this city presented a paper on "Modern Cold Storage Practice and Food Preservation" before the April 19 meeting of the New York section, American Society of Refrigerating Engineers.

The meeting was held in the Hotel Taft. Mr. Horne's talk considered the technical aspects of food preservation, as well as the economics of the subject.

After the discussion which followed Mr. Horne's talk, a five-reel motion picture of Hoover City and Hoover Dam were shown.

Thousands of Chicagoans Attend Commonwealth Edison Show

By George F. Taubeneck

CHICAGO—Attracted by personal appearances of radio stars, held by impelling displays and seductive groups of brightly costumed sub-debs and artists' models, and harangued by star salesmen, thousands of Chicagoans milled through the Electric Refrigeration Show at the Commonwealth Edison Co. from April 17 to 22.

Models of more than 13 manufacturers were on display, each represented by the Chicago distributor or branch. Among the notables from executive headquarters present were: E. D. Doty, advertising manager, and Jeanne Adaire, home service department of Frigidaire; H. H. Whittingham, sales executive, and R. E. Denamore, western field manager of Norge; John Ditzell, general sales manager, and his two lieutenants, Charles Klopp and Harry Alter, of Majestic; William C. Grunow, president, H. C. Bonfig, sales manager, Duane Wanamaker, advertising manager, and Earl Macke of the Grunow Corp.

Each display was shown in a separate booth, the 13 booths being scattered throughout the utility company's entire electric shop on the street floor of the Commonwealth Edison building.

Makes of refrigerators shown at the exposition were Copeland, Crosley, General Electric, Gibson, Graybar, Ilg-Kold, Grunow, Ice-O-Matic, Kelvin-

Majestic Adds 8.2 Cu. Ft. Porcelain Model to Line

CHICAGO—Grigsby-Grunow Co. has added a new model to its line of Majestic electric refrigerators—an all-porcelain model with a net capacity of 8.2 cu. ft. The new unit lists for \$235, according to Charles R. Klopp, field sales manager of the manufacturing company.

The new model is the same as the Majestic model 900, except that it is finished in porcelain on the cabinet exterior, with a black trim on the bottom of the lid, bottom of the skirt, and door edges. It will be known as model 950.

RECEIVERSHIP FOR COPELAND QUASHED

By George F. Taubeneck

MT. CLEMENS, Mich., April 25.—George Bright, nationally known refrigeration engineer, was in charge of Copeland Products, Inc., for two days—Saturday the 22nd and Sunday the 23rd—when he was appointed temporary receiver for that concern pending the hearing on Monday. The petition for receivership was quashed by the court on that day.

Stockholder R. K. Horner of Flint, Mich., who organized Copeland in 1923, filed the petition for receivership, which was dismissed by Judge James E. Spier in Circuit Court when he held that the matters involved were outside the jurisdiction of the court and should be settled by the board of directors. The petition represented only 500 shares of the company's 48,600, according to the court.

This afternoon the annual meeting of Copeland stockholders was scheduled to convene at the factory, but a

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Copeland Presents Models to Dealers

MT. CLEMENS, Mich.—Copeland distributors and dealers from Michigan and nearby points in Ohio and Indiana met at the Copeland factory here April 20 for the first of a series of group meetings which are to be held throughout the United States for the purpose of discussing with Copeland distributors the company's spring sales campaign.

C. W. Hadden, general sales manager, opened the meeting by explaining to the distributors the reason for bringing out the new "L" or low-priced line right after general announcement had been made relative to the "W" or styled-cabinet line.

"When we brought out the W line," stated Mr. Hadden, "it was deemed the ideal thing at that time for the

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NEW KELVINATOR CONDITIONER TO HEAT & COOL AIR

Temperature, Humidity Automatically Controlled

DETROIT—Indirect air-conditioning units, with automatic control of both temperature and humidity, and constructed so as to provide year-round conditioning with summer-time cooling and winter heating, feature the 1933 air-conditioning line just announced by Kelvinator Corp.

In announcing the new Kelvinator air-conditioning line, J. S. Sayre, sales manager, claims that the units offer complete home air conditioning.

"Our experience in the sale of room coolers during the past several years convinces us that the electric refrigeration industry should sell more than room cooling, even though room coolers are regarded by the public as true air-conditioning equipment," Mr. Sayre said.

"With this in mind, we have designed equipment to provide not only temperature control but also automatic regulation of humidity to compensate for the constantly changing moisture content of the air."

Incoming air is drawn through filters at the top and sides of the new air conditioners. It is picked up by a fan, forced through the cooling chamber, and then through the separate dehumidifying chamber. By means of the automatic temperature control, only enough of the incoming air is allowed to pass over the cooling coils to assure the proper amount of cooling, the surplus air being by-passed around the coils.

Dehumidification is accomplished in a separate chamber. After the air has passed through the cooling chamber, the automatic humidity control deflects a portion of the air through the dehumidifying coils which remove just enough moisture to deliver air at the desired humidity.

Remaining portion of the air is by-passed around the dehumidifying coils, and later mixed with the dehumidified air, before being discharged into the room as conditioned air.

The Kelvinator air conditioners take up about as much space as the conventional room coolers, the announcement states.

Three models are included in the line. Two of these are direct-expansion units with a refrigerant passing through the cooling and dehumidifying coils. These two differ only in capacity.

The third model employs the indirect method of cooling and is installed in connection with a water tank. A Kelvinator cooling unit is immersed in the water tank, refrigerating the water which is then passed

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WITTENMEIER AWARDED CONDITIONING CONTRACT

NEW YORK CITY—Wittenmeier Machinery Co. of Chicago has just been awarded a contract to furnish and install refrigeration machinery for air conditioning the Silver Grill room of the Hotel Lexington, Chas. E. Rochester, manager of the hotel, announces. Contract for the ducts and duct installation is still to be let.

When the air-conditioning system is placed in operation, all air entering the Silver Grill will be washed, humidified or dehumidified according to moisture content, and warmed or refrigerated as the weather dictates to a temperature of 74° F., Mr. Rochester states.

Maine Mfg. Co. Uses Liberty Condensers

PROVIDENCE, R. I.—Condensing units made by the Liberty Refrigeration Corp. here are being used in all household electric refrigerators manufactured by the Maine Mfg. Co. of Nashua, N. H., according to J. H. Readie, Jr., general manager of the Liberty organization. The Maine Co. produces the White Mountain household line.



Earl Macke of Grunow Corp. visits the exhibit of his company's Chicago distributor.

ator, Leonard, Majestic, Norge, Stewart-Warner, and Westinghouse.

A feature of the exposition was a booth containing displays of Carrier and Frigidaire air-conditioning equipment.

BY GEORGE F. TAUBENECK ---

Larger Boxes

From all quarters come reports that larger boxes are being sold this year by retailers of electric refrigerators.

Last Thursday in Chicago JOHN DITZELL, general sales manager of Majestic, told us that Majestic's big seller this year is its 8-cu. ft. model which lists at \$208. Because of the heavy demand for this large box, Majestic's dollar volume is greater than it was last year, and its average price per unit sale is much higher than it was in 1932. Which pleases Mr. Grigsby.

John is as sure that the demand for quality and better values is returning as he is that A Century of Progress fair will draw thousands of visitors to Chicago. He sees evidences of this shift in emphasis from price to quality every place he visits, in every conversation he holds, and in the precious figures and statistics which are his pride and joy.

His observations are corroborated by HARRY ALTER, assistant general sales manager (who, as the former Majestic distributor in the Chicago area, has many points of close contact with the field). This theory is the basis of all Majestic plans today. Over there they're working toward higher priced lines, with especial emphasis on style and beauty. Radio lines have been redesigned with modern motifs. Nor are the new artists and architects and designers brought into the Majestic fold a month or so ago through yet. Watch and see.

The untiring Mr. Ditzell has a good many strings to his bow these days. He's president of no less than eight subsidiaries of the Grigsby-Grunow Co., ranging from a radio station to (laugh here) the Columbia Flute & Zither Corp.

Charles Klopp

For some time we have been noting with interest the rise of CHARLES KLOPP, who today has the title of Field Sales Manager of the Grigsby-Grunow Co.

Not so long ago Charlie was a student at Yale. After graduation he spent a year in Europe, studied law for a couple of years, and finally decided that specialty selling was what interested him after all.

So he got a job with JUDSON C. BURNS, General Electric distributor in Philadelphia. That, you will probably agree, was a darned good place to get training in specialty salesmanship. While in the Burns organization he worked under BILL HEGGE, who is one of REX COLE'S best junior executives today.

He also landed some unbelievably large single orders from people such as Gen. Atterbury of the Pennsylvania railroad, and the Ludens of cough drop fame.

Then he went to Pierce-Phelps, Majestic distributor in Philadelphia, where Mr. Ditzell found him and brought him to Chicago as an assistant.

Rapidly advancing under Ditzell's tutelage, Charlie is now in direct charge of all Majestic's field representatives and regional selling operations.

He keeps close tab on the "state of the nation" as regards Majestic, and is one of Mr. Ditzell's sources for figures. He also sits in on conferences with such old heads as Harry Alter and others of the Majestic executive force.

Charlie is a darkly handsome, likeable chap with plenty of ambition and a natural urge for work. Watch him go.

Efficiency Plus

While we're in the mood for tossing bouquets, we might as well mention something we've been wanting to get off our chest for months and months and months—our admiration for Majestic's efficient office help.

Down in the reception room on the first floor there works a gal who, we claim, is the best receptioneer we've ever seen; and we've dodged, sidestepped, and straight-armed past a

good many of these babies in our day. She's been there ever since we can remember, and we've found men all over the country who remember her with pleasure.

This is one reception girl who is on the side of the visitor. She makes you feel as if getting you into the office of the man you are seeking is the most interesting and enjoyable thing she has to do that day; and she'll battle with hardboiled secretaries upstairs until you do get to see him.

For every visitor she makes out a slip containing his name, company, time of his arrival, and the man he wants to see. Every few minutes, if you are kept waiting, she puts in another call upstairs, and gives you a report on the situation. And her general brightness and cheeriness and I'll-get-you-in-if-it-kills-me attitude actually make waiting a pleasure.

Most reception girls are Outer Guards of the Inner Door, with a suspicious manner, and an air of having been the understudy to the purchasing agent. Miss What's-Her-Name (sorry we don't know it) at Majestic is definitely sales-minded; and is, in our humble opinion, a first-rate advertisement for the company.

Another girl who has long impressed us there is MILDA KOPECK, John Ditzell's light-nimble secretary. One reason for John's success, we've suspected, is the fact that he has a gift for picking good assistants. His secretary, we should judge, must be one of the best in the business.

John is out of town a great deal. Yet your letters to him will always be answered promptly and intelligently, even though he be in Seattle or Providence. Often Miss Kopeck is able to supply the information you are seeking herself, and if she isn't she finds someone who is.

And when he is in town, and in his office, this wee mite of a person serves as a walking (or rather, running) cross-reference indexing system, so that he never need wait more than a few seconds for any information he may need.

ALICE HONHOLZ, statuesque blonde secretary to busy Advertising Manager EARL HADLEY (who, by the way, is turning out some of the classiest literature we've ever seen), is another Majestic helper with a capacity for work.

There may be others equally efficient over there; but we've had the opportunity to watch this particular trio work for a long time, and hence know just how good they are.

A Man Who Knows His Business

About HENRY FORD is told the following story: A magazine writer, sent to interview Ford, tested the Master of Mass Production by giving him a washer and asking him from what part of the Ford car it had come. Mr. Ford picked up the washer, snorted, and flung it out the open window.

"That washer," he flamed, "isn't even on the Ford car!"

Yarns similarly indicative of a high order of familiarity with the product he manufactures might be told about BILL GRUNOW. With the possible exceptions of HOWARD BLOOD and JEFF JOHNSTON, there probably isn't a company president in the industry who knows so much about the manufacturing processes of his concern as does Bill.

Frequently in the last few months this kolum has been criticized roundly for talking about Bill—even for mentioning his name. Almost invariably the critic will say:

"Of course I've never met this fellow Grunow, but..."

And that, we tell them, is their answer. They've never met him, and don't know him.

Even Bill's worst enemy (and he seems to have stirred up plenty around these parts) would have to admit that Bill knows a helluva lot about manufacturing—should the "enemy" have the opportunity to go through the Grunow plant.

There's not a machine in the factory Bill can't operate, not a part he can't make, not a tolerance he doesn't remember, not a single bit of material which he can't delineate and expound upon, not a worker whose name he doesn't know and who doesn't call him "Bill." Furthermore, he knows the COSTS of everything.

These are facts to which the writer was a witness last Friday, when he spent most of the morning going through the plant with Bill.

Honestly, it was a revelation. We've been taken through dozens of plants, and by experts, too. But never before has anyone been able to make this bonehead of ours see the light on the whys and wherefores of the manufacturing process we were being shown.

Bill doesn't stop with quoting tolerances and discussing the quality of his materials. He shows you, by comparing rejects and parts previously experimented with, just why each particular part is fashioned exactly as it is today and why it works best that way. And that, we opine, is education.

He glories in that factory. If you want to watch his famed dander rise, just happen to be around when he discovers evidence of dirt or untidiness. Like Ford, he is a stickler for cleanliness and order in his plant.

Most of all he enjoys inventing a machine which will do the work three or four machines did formerly. And he has done it, time after time. The day we went through he pointed out a line of six machines which will be replaced this week by a single, high-speed production tool.

"You can't stand in the way of progress," Bill avers. "It never pays to whine about investments when it's a question of scrapping something new for something newer. The man who stands in the way of progress is the man who gets bumped to the side of the road and pushed out of the race."

Bill is a fine horseman, an excellent golfer, a devoted family man, a millionaire, and enough of a national figure to be called in for consultation by President Roosevelt a few weeks ago.

Yet he is most happy when doing the work of a skilled laborer in his plant. He loves machinery, and working with his hands, almost as much as he loves a good fight.

Some 400 machines a day are being turned out by the Grunow factory. And this was one plant which did not shut down during the bank holiday. Several distributors wired the factory immediately after Roosevelt's bank-closing proclamation that they had cash funds available should the home office be pinched for ready money!

Speed Indeed

H. C. BONFIG, who directs Grunow refrigerator sales, is engaged on a night-and-day drive for dealers. Just to indicate how much territory he is covering and how fast he gets over it, there's this story:

One morning last week he left the office in Chicago at 9 o'clock, after having done an hour's work at his desk. Taking a plane to Indianapolis, he arrived there in time for a dealer meeting and luncheon, at which he spoke. After discussing franchises with several, he took another plane back to Chicago, walked into his office there at 5 o'clock in the afternoon, and put in another hour's work at his desk before going home!

Bonnie tells with gusto a tale about the course of sprints Bill took his field representatives through not long ago.

It seems that Bill thought these representatives should know more about the Grunow refrigerator, so he called them all into the Briggs plant in Detroit, where the refrigerators are assembled.

He gave them a bunch of rejects and reverts, and told them to find out what was the matter with these machines, and fix them!

For two days these salesmen—some of whom had a few years ago worn the title of "vice president in charge of sales" of big companies, and most of whom weren't even familiar with a monkey wrench or can opener (although all probably knew what to do with a bottle-opener)—struggled and sweated with their new jobs as service men!

And they loved it!

Unusual Publicity

Scenes of Frigidaire Moraine plant in Dayton were shown in the Pathe Newsreel issued last week.

The films, taken at 6:45 a. m., April 6, showed the day shift rushing through the gates and into the doors of the half-mile long assembly building, the huge whistle as it boomed the "come to work" signal, and a long line of coatracks filled with coats, hats, and dinner pails as still more workmen arrived to shed their street garments and put on aprons and goggles.

The pictures were shown in all motion picture theaters using Pathe.

Thursday night, a fortnight ago, the Lucky Strike radio hour had a Frigidaire gag, pulled by Baron Munchausen (JACK PEARL) and Charlie, his straight man.

The Baron was bragging about his career as a railroad engineer and how he pulled a train of 1,700 cars. Charlie laughed at him and the Baron cited boxcars, coal cars, stock cars, and refrigerator cars.

"Frigidaire, Baron?" Charlie retorted.

"The Baron makes the jokes," Munchausen replied.

On the Chase and Sanborn hour, Eddie Cantor, banjo-eyed comic, pulled the time-worn ice man joke with an icewoman twist.

"If you don't like the icewoman," he told his office working wife, "you'll have to buy me a Frigidaire."

Fighting for Quality

In contrast to the rather general attitude of manufacturers and suppliers throughout the industry, which is to "give 'em what they want if it kills 'em," HARVEY LINDSAY, president of Dry-Zero Corp., has been fighting a one-man crusade for quality refrigerators during the past several months.

We admire him immensely for it. Finding exhortations of little value, Mr. Lindsay has constructed a testing laboratory, which we have discussed at some length previously in this kolum.

Not satisfied with that, he has been sending questionnaires to dealers, attempting to ascertain their reactions to the quality of refrigerators now available, and to Mr. Lindsay's proposals for performance standards.

Assisting Mr. Lindsay in his labors in behalf of quality is M. GLEN MILLER, who is president of the advertising agency which bears his name. Mr. Miller is a sandy-haired young man of serious and sober mien; and in spite of the fact that he practically insulted us by mis-

taking our exercise of editorial judgment for diplomatic vacillation, we think he's an intelligent and earnest chap.

(Right here and now we'd like to hammer the point that when we don't print something which has been submitted, it is because we think it doesn't merit publication in competition with other material available. And NOT because we don't like the color of your eyes, or because in so doing we might step on somebody's toes. Anyone who has read the News over a period of years can call to mind any number of outstanding instances in proof of the fact that nobody has a finger in the control of this paper outside of the highly independent F. M. COCKRELL, who owns the whole works.)

Messrs. Lindsay and Miller are now compiling the results of the questionnaires they have been sending out to distributors and dealers; and shortly we shall be able to report to you their findings.

Too Much Current

Indication that an improperly constructed electric refrigerator does consume too much current is shown by two letters which appeared recently in the "Voice of the People" column of the Chicago Tribune, copies of which were given us last week by Harvey B. Lindsay, president of Dry-Zero Corp., and M. Glen Miller, head of the advertising agency for Dry-Zero.

The first letter appeared in the Feb. 9 issue of the Tribune, and was as follows:

"Chicago, Jan. 30.—What are we people going to do about our large electric bills? Will we have to pay the overcharged bills and say nothing? Last month I got a bill for \$5.75. This month my bill is \$7.75. Last year my December bill was \$4.50, my January bill about \$4.20."

MRS. ROSE STONE. On Feb. 22, the Tribune published a letter from William H. Culver of Commonwealth Edison Co., utility company in Chicago, which answered Mrs. Stone's complaint. Mr. Culver's letter follows:

"Chicago, Feb. 16.—When the complaint of Mrs. Rose Stone of high bills for electric service was published in the Voice of the People on Feb. 9 an immediate preliminary investigation indicated that something was wrong. Therefore an extended and careful test was undertaken.

"This test required some time, but showed that the meter was functioning properly and that electric current was being used in the quantity charged for.

"But the test also showed that one

of her household appliances (an electric refrigerator) was using daily several times as much electricity as it should, which was the reason for her high December and January bills.

"As the faulty refrigerator was the customer's property (and was not purchased from the Commonwealth Edison Co.), located on the customer's premises and entirely controlled by the customer, all that the Commonwealth Edison Co. could do was to keep her advised of the tests and inform her of the results and the remedy. This was done. The customer was satisfied with the report and was convinced that when the refrigerator is put in condition to function properly her bills will go back to normal."

WILLIAM H. CULVER.

Carrier on Ionization

ELECTRIC REFRIGERATION NEWS scooped the American Magazine by about two years on some of the facts published in a recent issue of that worthy periodical concerning WILLIS H. CARRIER and his work in air conditioning, but some of Author John Janney's paragraphs are so interesting that we want to reprint them here.

Under the subject, "He Dries Air With Water and Cools It With Steam," Mr. Janney tells of Mr. Carrier's boyhood, his never-ending quest for "the reason why," of his self-earned education at Cornell, his days as trouble shooter, chief engineer, and air-conditioning chief of the Buffalo Forge Co.

Then of how Mr. Carrier and several friends pooled their resources, and in 1915 organized the Carrier Engineering Corp. which has since been taking rapid strides toward perfecting air-conditioning equipment for both domestic and commercial use. Continues Mr. Janney:

"Now he (Mr. Carrier), as well as his able and powerful competitors, are preparing for the greatest step of all—air conditioning for the home and office—a step which promises in the next 20 years to expand the lusty infant industry from its present annual business of about \$10,000,000 to about \$250,000,000."

And here is something about Willis Carrier, the man:

"When his mind gets a strangle hold on a problem, whether of business, thermodynamics, or teaching tricks to a houn' dog, he is alone—as much alone in a subway jam or a football crowd as in the wilds of northern Ontario.

"At these times the routine details of life don't interest him. He must be reminded to eat, to sleep, to keep engagements, to put on his overcoat.

"And he's death on hats," one of his friends warned me. "He'll take anybody's hat he lays hand on, whether it fits him or not. Once when he was a student at Cornell university, he struggled for a long time to get into a garment."

"Finally he realized something was the matter. 'What's wrong with this coat, anyway?' he demanded. 'The chief thing wrong with that coat,' chuckled his roommate, 'is that it's a pair of pants!'"

And here is how Mr. Carrier describes his outlook on life:

"I've never bothered much about planning my career far in advance. For one thing, I'm too lazy. For another, if you worry too much about the future you bungle the present.

"I'm afraid I'm not much of a go-getter, either. If you're always chasing opportunities, you're too tired to take advantage of them when you catch up with 'em."

"What interests him most about air conditioning at the moment," says the author, "is its possibilities as an aid to health." Mr. Carrier is quoted on this subject:

"For centuries, wise doctors have known that there is some mysterious virtue in outdoor air. The atmosphere of certain mountain and seaside resorts have been found beneficial to invalids. But no one has known why. Now it seems that we are on the threshold of a solution of the mystery.

"Research at Harvard university indicates that this unknown virtue may be the electrical quality of ionization. Trees, grass, soil, and sunlight, it seems, produce ionization in the air.

"If the air is then taken into a crowded room, the ionization quickly disappears. Furthermore, there are two kinds of ionization: positive and negative.

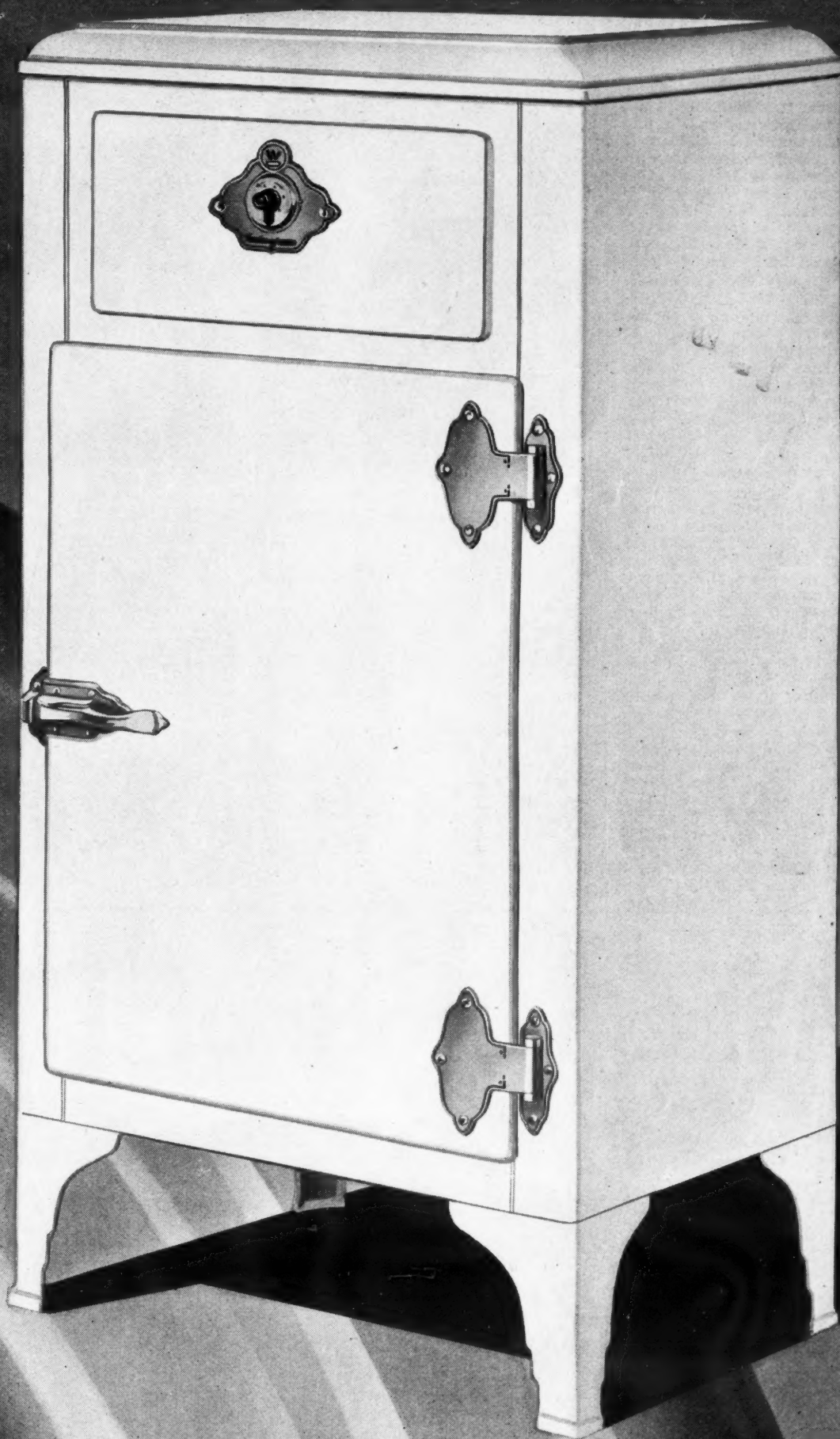
"The positive, apparently, is stimulating, exhilarating, and produces a higher blood count. The negative is soothing, depressing.

"Remember, this has not yet been proved. It is still very much in the experimental stage. All we know is that, just as certain foods have a beneficial factor called vitamins, so outdoor air has some beneficial factor which may be ionization.

"If it is ionization, and the medical profession agrees on the quality and amount desirable, we shall be able to supply it, indoors. Without much additional cost, we can add an ionizing unit to our present apparatus.

"But we aren't doctors. It would be sheer quackery for us to go ahead with this before the medical research men have fully solved the problem!"

ONE LINE
Complete
ONE QUALITY
the Best



TODAY, as in the past, the real source of profit in refrigeration is the first line, first quality refrigerator. It is more profitable in net cash return, and more profitable in customer satisfaction. So it is that Westinghouse, with ONE LINE, complete in eleven models—ONE QUALITY, the best that can be built, places its dealers and salesmen in the position of REAL PROFIT and customer satisfaction on every sale!

Even the smallest, lowest priced Westinghouse Refrigerator is a genuine first line, first quality refrigerator. And present day proof that more and more buyers are demanding this assurance is reflected by unparalleled Westinghouse sales *increases*. Through maintaining strict quality standards, through gearing advertising and merchandising to modern market requirements, Westinghouse has accomplished in four years a sales volume of dominant influence in the industry.

Westinghouse invites every merchandiser interested in building future as well as present day profits to write for complete Franchise details. Write, Westinghouse Electric & Manufacturing Co., Refrigeration Division, Mansfield, O.

Westinghouse
Dual-automatic
REFRIGERATORS

EDMUNDSON HOLDS LEAD IN 'MAN HUNT'

CLEVELAND, April 24.—(Special Wire to ELECTRIC REFRIGERATION NEWS)—Commissioner Gene Edmundson of Houston, Tex., continues to lead in the southwestern district and for the second successive week leads all other General Electric Man Hunt contestants in Refrigerania with almost 50 per cent of his quota made, despite the fact that the G. E. spring campaign is only a third completed.

Arrests in general showed a sharp increase at the close of the third week, resulting in a change of leaders in four districts.

In the metropolitan district, W. L. Thompson, Boston distributor, wrested the district commissioner's title away from A. Wayne Merriam, distributor in Schenectady, N. Y., by a very slight margin.

Deputy-Commissioner Dorsey Hines, Baltimore G. E. distributor, showed a large increase in "arrests" for the third week, and is now in third place.

Don Breckenridge of Springfield is fourth, and Rex Cole is fifth. Maj. M. A. Glueck of Kansas City is a new commissioner in another area this week, having wrested the title away from R. Cooper, Jr. in Chicago by a sudden increase in sales.

Commissioner Glueck leads Mr. Cooper by a margin of only 2 per cent, however, but the latter has been forced into third place by the increased activities of O. F. Stuefer's organization in Minneapolis.

Milwaukee's Deputy-Commissioner Ed Schaefer has dropped into fourth place. A. S. Dunning of the G. E. Supply Corp. in St. Paul and M. A. Dunning of Duluth are among the tailenders in the midwestern district.

In the southwestern district, reports show a general sales average much higher than that for any other dis-

Copeland Dealers Plan Sales Campaign



Copeland distributors and dealers from Ohio, Indiana, and Michigan met last week in the factory at Mt. Clemens, Mich., to plan spring sales activities.

trict, G. E. contest officials state.

T. J. Sullivan of New Orleans stepped up during the past week and is now battling Mr. Edmundson for first honors in Refrigerania.

Albert Ahrens of Oklahoma City and Tulsa, who has made a practice of running off with G. E. campaign honors, has dropped to third place, but is slightly ahead of Distributor Hap Pendergraph of Nashville.

Deputy-Commissioner Pendergraph, however, is but a trifle ahead of S. C. Griswold of Dallas. Third new district commissioner this week is A. J. Finck of the Storz G. E. organization in Omaha (Rocky Mountain district). Sales showed such a large increase in the Storz territory that this force

made an average percentage of quota last week almost double that of former District-Commissioner Cone's organization.

L. H. Bennett in the Pacific Coast division sprung a surprise on other contestants in his district, and grabbed the commissioner's title by turning in a sales report that shaded former Commissioner Courtright by a wide margin.

Deputy-Commissioners George Belsey and C. W. Hartenfels offered little competition in this district.

In the Atlantic district, C. L. McCrea of Washington, D. C., continues to hold his large lead and is well ahead of quota for the first three weeks.

Deputy-Commissioner W. M. Perry of Columbia, S. C., is Mr. McCrea's nearest rival.

W. D. Alexander and Judson C. Burns in the Atlantic district, deputy-commissioners in Atlanta and Philadelphia, respectively, have been a bit slow in getting started.

RECEIVERSHIP FOR COPELAND QUASHED

(Concluded from Page 1, Column 4) quorum was not present, so the meeting was postponed until May 25.

William Robert Wilson, president, and Ed Brown, vice president in charge of finance, retain their titles and are still in nominal charge of the company, despite the fact that the creditors' committee has ousted them from actual management. Mr. Wilson, it is understood, was behind the movement to force the company into receivership this week, and is waging a strong battle to regain control.

The Copeland factory is apparently little affected by the chess game and legal maneuvers being played by the two factions: stockholders vs. creditors' committee. Some 250 units a day are coming off the lines, and next week's schedule calls for shipment of 1,500 machines. Carloads of refrigerators are leaving the plant daily. One today left for Boston.

The present Copeland line of household refrigerators is a hybrid, having boxes with the unit in the bottom, in the top, and in the back. Only the 7-cu. ft. model retains the modernistic lines and unit-in-the-back construction of the 1933 Copeland line announced earlier this year.

Truscon Steel Co., which is supplying Copeland with cabinets this year, places the new Copeland "midget" compressor in the bottom of the 4-cu. ft. box, and in the top of the 5- and 6-cu. ft. models. Soon a 6-cu. ft. box finished in porcelain will make its appearance.

E. R. Berkley of the Hecht Co., Copeland distributor in Washington, D. C., made a rush trip to the Copeland factory this week to speed deliveries on shipments to Washington.

The Hecht Co. has been receiving shipments at the rate of two carloads of refrigerators a week; but found it necessary to increase their schedule. Prior to handling Copeland, the Hecht Co. marketed a refrigerator under its own brand.

W. H. Lyon, for two years special representative for Copeland in the New England territory was called to the factory last week by C. W. Hadden, general sales manager, and immediately sent on a trip from Denver to the West coast to acquaint Copeland distributors and dealers with the company's new household line and sales plans for 1933.

He left Tuesday, April 20, and expects to be gone about six or seven weeks.

R. A. McKee, proprietor of the McKee Music Co., of Charleston, W. Va., was a visitor at the Copeland factory Tuesday, April 18.

COPELAND DEALERS FROM 3 STATES MEET AT PLANT

(Concluded from Page 1, Column 4) market. However, the unexpected avalanche of price cutting that was inaugurated this spring made it necessary for us to bring out a line designed to meet this situation.

"As a result we have brought out the 4-, 5-, and 6-cu. ft. models in our 'L' line, retaining for the present only the 7-cu. ft. model in the 'W' line originally announced for 1933. We have not given up the 'W' line and we expect in the future to announce more models in this series. We expect to be able to ship all lines in any quantities by April 27."

PROBLEMS OF BEER COOLING DISCUSSED

(Concluded from Page 1, Column 3) teurized after being bottled, and consequently is not effected in any way by relatively high temperatures.

During the aging process, keg beer is kept at approximately 40° F., and at 45° F. while in storage. It should not be allowed to rise in temperature above 55° F., because this drives out the CO₂ gases and the beer becomes flat and bitter.

After keg beer is delivered to the dispensary, it should be allowed to stand for a time, to prevent its becoming "wild." It is because of this that keg storage coolers are necessary, Mr. Wyllie pointed out.

Cooling of Keg Rooms

Cooling of keg rooms is no great problem, he said, because the only problems to be met are those of heat leakage and service loads.

In answer to a query as to why all cooling could not be done in the cooling room, the speaker explained that walls of the keg are quite thick, and thus prevent satisfactorily fast cooling (for serving purposes) after the beer was delivered to the retail outlet.

Mr. Wyllie said that old ice-cooling equipment may be refrigerated mechanically by replacing the old beer coil with a coil of 1/2-in. O.D. tinned copper tubing flattened to 3/8-in. thickness, and by installing a direct expansion coil to refrigerate the water bath around the beer coil.

There are, however, some disadvantages to this sweet water bath method of cooling draft beer, the speaker stated. When the beer is not drawn off in large quantities, it often becomes too cold, and when it is drawn through the cooler rapidly, it is apt to reach the draft arm in too warm a state.

Instantaneous Cooler

In the instantaneous type of cooler, the water bath is eliminated, the coils being placed directly in the refrigerant within the cooling unit. Advantage of this method of cooling is that the heat transfer rate is rapid and the temperature regulation much closer than in the other type of cooler.

Refrigerant in an instantaneous cooler will not evaporate below the established minimum beer temperature, Mr. Wyllie said.

As to placement of the cooler in the dispensing assembly, the speaker said that the cooling unit should be placed as closely as possible to the draft arm so that the first one or two drafts of beer will not be too warm.

One cooler should be used for each draft arm. If two draft arms are connected to a single cooling unit and are opened simultaneously, the result will be different pressure reductions in either arm, and faulty foaming in the beverage.

Multiple Coil Hook-up

Mr. Wyllie explained, however, that a number of coils can be placed in a single cooling unit, and each coil connected to a separate draft arm. With such an arrangement, the results are entirely satisfactory, he said.

Load on a cooler in the dispensing assembly is not overly heavy, and a small compressor may be used with the cooler, as the only requirement of the cooler is that it reduce the draft beer from approximately 55° F. to 40° F.

Because of the nature of much legislation concerning sale of beer, the trend is toward service bars, most of them smaller in size than those of pre-prohibition days, and self-contained. Many of them, said Mr. Wyllie, are constructed for half-barrels of beer at the end or ends of the bar.

Kerosene-Burning Unit

The new Gibson Kero-Unit, Kerosene-burning absorption type refrigerator for use in communities which do not have electric power, will have several advantages over other types of absorption machines, Mr. Born told his hearers.

The temperature differential between room temperature and cabinet temperatures is greater than in previous types of machines, he explained, making the unit more efficient.

The unit will freeze ice in about 45 minutes. Its efficiency is such that all but 1 1/2 lbs. of the 14 lbs. of ammonia in the system is utilized in the evaporator during the cooling cycle.

Another feature of the new Kerosene-burning unit is the holdover facilities in the evaporator, made possible by means of a solution of brine and alcohol. This keeps the cabinet cool during the heating part of the cycle, which takes an hour and a quarter.

One complete cycle of operation will cool the cabinet for a period of four hours, maintaining practically constant temperatures during this period.

Several refinements have been made in the construction of the unit, the principal one being a seal which prevents the return of the ammonia to the generator after it has passed into the rectifier. A safety device has also been provided to prevent the pressure from rising beyond 250 lbs.

Make a Note of This

★ ★ ★

In the May issue of Refrigerated Food News you can tell your sales story on beer cooling equipment to 13,750 selected prospects. Your advertisement in this issue will have an editorial background of informative material on this important application of commercial refrigeration.

★ ★ ★

THE sale of beer is now legal in thirty states and it is probable that the near future will see its sale legalized practically all over the country.

This means that a tremendous market has been opened for beer cooling equipment to be used in connection with its sale of beer to the consumer. Groceries and delicatessens will need larger facilities for cooling bottled beer. Hotels, restaurants and clubs will be in the market for draft beer cooling equipment, as well as facilities for cooling bottled goods. It is safe to say that most of the refrigeration sales will be for mechanical equipment.

In the May issue of REFRIGERATED FOOD NEWS we will print descriptive specifications of the beer cooling equipment on the market to date, together with a directory of the manufacturers. The May issue will be mailed to 13,750 of your

potential customers and distributors made up of
3,330 large hotels (50 rooms or more)
2,500 restaurants (rated at \$10,000 or more)
2,000 golf and country clubs
2,750 food marketing outlets (including the buying heads of grocery and meat chain stores)
2,450 commercial refrigeration distributors and dealers
750 manufacturers (including commercial refrigeration equipment, food packers, fish packers, meat packers, fruit packers)

In this issue of REFRIGERATED FOOD NEWS you really have a made to order piece of sales promotion literature built to give the needed information on mechanical refrigeration for beer cooling as a background for your sales story. Keep in mind that REFRIGERATED FOOD NEWS is edited primarily from the viewpoint of the actual buyer of commercial refrigeration equipment. In addition, it covers the preparation, transportation and preservation of refrigerated food.

And the cost is low—in fact a full page in this issue costs less than the actual postage of a letter mailed to this list of prospects. Reserve space now. Advertising forms close Monday, May 1.

Refrigerated Food News

550 Maccabees Bldg., Detroit, Mich.

Utility System Will Campaign To Sell 23,956 Refrigerators

NEW YORK CITY—The "1933 Refrigeration Jubilee" sales campaign of the Associated Gas & Electric System will open May 15 with central stations and dealers in the territory covered by the system striving to surpass previous Jubilee efforts during the period of the campaign, which closes June 24.

Quota for the entire system for 1933 has been set at 23,442 electric refrigerators and 514 gas refrigerators.

In 1932, 1931, and 1930, the three years in which the Associated Gas & Electric System has conducted the Jubilee, total sales of refrigerators have been 11,454; 19,786; and 19,306, respectively.

Each property in the system will have for its objective the attainment of the greatest percentage of the year's quota during the Jubilee period. Results will be calculated on sales of domestic refrigerators only, with milk-cooling jobs being classified as domestic for the purpose of the Jubilee, as the Associated Gas & Electric System is making a concentrated effort to add to its rural load.

Dig Up Prospects

Employees of the system will take an active part in the plan, digging up prospects for the salesmen as part of the "Employee Business Building Plan." The Jubilee campaign gives the employees the opportunity to increase their earnings by developing prospects and receiving bonuses and points under the business building plan.

A plan of special compensation for salesmen who obtain cash sales or a reduction in terms, or a higher down payment, is being recommended by the system as a means of spurring activity during the campaign.

This plan would work as follows: a \$2 bonus for a cash sale; a \$1 bonus for a reduction in terms to 12 months where the time payment chart calls for 18 months or more; a \$1 bonus for obtaining a \$25 down payment where the terms call for less than \$25; a \$2 bonus for obtaining \$50 or higher down payment where the terms call for less than \$50.

'Man Hunt' Contest

This year the Jubilee is sponsoring a "System-wide" hunt for prospects, under the title of the "Man Hunt" contest, in which every man and woman, directly or indirectly connected with the system's electric and gas properties is invited to join.

It is understood that the refrigerator manufacturers or their distributors will offer prizes for sales accomplishments during the Jubilee, and that in addition, each group manager may set up prizes for his respective groups for teams, individuals, and dealers.

In the system contest, each group manager will start as "deputy commissioner." Promotions to the "commissioner's" office will be made weekly and the "commissioner" shall hold office until the appointment of his successor. New business managers will start as "district safety directors" with promotion to "captain" on the same basis of the plan followed with respect to the commissionship.

Lineup for 'Man Hunt'

The line-up for the "Man Hunt" is as follows: Deputy commissioners: H. V. Armstrong, Terre Haute, Ind.; C. S. Banghart, Reading, Pa.; H. R. Bode-muller, Lafayette, La.; F. D. Campbell, Staten Island, N. Y.; N. H. Coit, Columbia, S. C.; C. H. Courser, Orlando, Fla.; H. D. Fitch, Bowling Green, Ky.; F. H. Golding, Cambridge, Mass.; P. H. Harris, Johnstown, Pa.; L. H. McCray, Erie, Pa.; E. E. Hawkins, Patchogue, L. I.; F. H. Hill, Elmira, N. Y.; G. C. Hyde, Dallas, Tex.; H. O. Palmer, Geneva, N. Y.; J. R. Ramsey, Mechanicville, N. Y.; H. Russell, Rochester, N. Y.

District safety directors: E. E. Lin-burg, Terre Haute, Ind.; L. Weiss, Reading, Pa.; J. R. Gaugler, Lafayette, La.; W. G. Burrill, Staten Island, N. Y.; E. Leier, Columbia, S. C.; H. R. Cloud, Orlando, Fla.; M. McKinney, Bowling Green, Ky.; W. G. Keay, Cambridge, Mass.; R. J. Rutherford, Cam-

bridge, Mass.; J. R. English, Johnstown, Pa.; E. F. Kloor, Johnstown, Pa.; G. J. Clute, Patchogue, L. I., N. Y.; C. R. Rudy, Elmira, N. Y.; F. B. Oster-mueller, Dallas, Tex.; H. L. Coleman, Geneva, N. Y.; W. G. Rhodes, Mechanicville, N. Y.; F. M. Houston, Rochester, N. Y.

A 10-point outline for dealer cooperative activity during the Jubilee has been published by the system in its prospectus on the Jubilee program. The outlined program is as follows:

1. Formation of local bureau or the undertaking of bureau work by the local electrical league or club.
2. Establishment of a local code of principles for the sale of refrigerators.
3. Cooperative advertising, sales promotion and publicity.
4. General coordination in sales and promotional activity.
5. Cooperative electric refrigeration exhibits.
6. Theater and lobby exhibits—cooking school exhibits, etc.
7. Local contests for the public.
8. Contests among sales outlets.
9. Individual use by sales outlets of bureau tie-up material.
10. Cooperative classification of prospects.

Establishing Quotas

The prospectus which the Associated Gas & Electric System has issued on the Jubilee campaign stresses the importance of establishing quotas and allocating expenses. It also points out that most central station merchandising men agree that some combination of salary, sales commission, and load-building bonus is the most satisfactory basis of compensation for their specialty salesmen, and that definite sales quotas should always be established.

In fixing these quotas and assigning salesmen, states the prospectus, the usual practice is first to check the population, types of homes, living standards, buying power, and distributive outlets of the whole territory by districts or divisions.

Next the merchandising executive checks these factors against sales realized for three years back and arrives at a percentage of factors giving the value of each district in proportion to the whole territory. In this way, the time of each salesman in the field can be determined with reasonable expectations of meeting them.

Tabulation of Expenses

The following tabulation of income, expenses, net profit, and return on investment is shown as a typical operating expense account for a successful central station operation with automatic refrigerators and other appliances:

	(In per cent)
Income	
Selling price delivered.....	100.0
Advertising allowance—credit.....	1.6
Quantity discount—bonus (ave.).....	2.0
Less: Cost of appliances.....	63.0
Gross Profit.....	40.6
General Expenses	
Freight, warehousing, delivery, handling, inventory adjustments....	5.0
Fixed store expenses.....	3.2
Fixed selling expenses, including general office, salaries, etc.....	3.4
Fixed miscellaneous expenses.....	1.5
Total General Expenses.....	13.1
Selling Expenses	
Partly fixed expenses—advertising and sales promotion.....	3.0
Commissions, bonuses, and quantity discounts.....	12.5
Contingent fund for miscellaneous expenses and servicing.....	3.0
Total Selling Expenses.....	18.5
Total General and Selling Expenses.....	31.6
Net Profit From Sales.....	9.0
Refinancing expense and loss on appliances returned.....	1.0
Net Profit.....	8.0
Rate of annual turnover—capital 12 times	
Earnings on Capital Investment.....	100.0

ANTI-UTILITY BILL LOSES IN MISSOURI

JEFFERSON CITY, Mo.—The Maxey bill to prevent gas, water, and electric utility companies from manufacturing, leasing, or selling household appliances has been defeated by a vote of 66 to 31 by the House.

LEONARD OFFICIALS GO TO WEST COAST

DETROIT, April 24.—The factory "flying squadron" of the Leonard Refrigerator Co., which since late in February has been conducting a series of retail schools in the East, Middle West, and South, left Detroit today on the final lap of its extended tour, which will take it through key cities in the West.

Members of the group are R. I. Petrie, general sales manager; A. M. Taylor, merchandising director; and J. J. O'Neil, new business manager of the Refrigeration Discount Corp.

Schools yet to be held for the company's dealers and salesmen, with distributors staging the meetings, are those scheduled for Des Moines, Denver, El Paso, Phoenix, San Diego, Los Angeles, Fresno, San Francisco, Sacramento, Portland, Seattle, Fargo, and Minneapolis.

The school at Des Moines, which will be held tomorrow, will mark the formal opening of the new quarters of the A. A. Schneiderhahn Co., Leonard distributor in that territory.

R. Cooper Jr. Sponsors Cooking Show

CHICAGO, April 23.—Miss Prudence Penny, home economist of the *Chicago Herald-Examiner*, and Miss Nell Snively, home economist for R. Cooper Jr., Inc., Chicago General Electric distributor, are to give an electric cooking demonstration in the Cooper salesroom this afternoon.

Five thousand invitations have been distributed by Cooper salesmen among prospects for G. E. appliances, according to S. Nides, sales promotion manager of the distributorship.

Michigan Dealers Hear Leonard Sales Plans

GRAND RAPIDS, Mich.—Some 30 dealers attended the sales meeting held here April 20 in the Pantlind hotel by H. Leonard & Sons, local distributor for the Leonard line of electric refrigerators.

The meeting was in charge of J. Zweedyk, manager of the refrigeration department of H. Leonard & Sons. Syd Camper, district manager for Leonard, presented the main features of the Leonard line and gave a short history of Leonard Refrigerator Co.

C. C. Campbell of Brooke, Smith & French, advertising agency for Leonard, outlined the 1933 advertising campaign. R. G. Nelson gave an explanation of the workings of ReDisCo finance company. The meeting was closed with a dinner.

'Fellowship' Meeting Held in San Diego

SAN DIEGO, Calif.—A "goodfellowship" dinner meeting was held here April 18 for electric refrigeration distributors, dealers, sales representatives, and salesmen at the gas utility's service building. The meeting was sponsored by refrigeration distributors in the local territory.

Speakers at the meeting included Dr. Alex Lesem, head of the county health department; A. E. Holloway, vice president in charge of sales of the San Diego Consolidated Gas & Electric Co.; and James East, district manager for the National Cash Register Co.

Entertainment was provided by a playlet built around the actual experiences of refrigeration salesmen.

CONTEST EXPLAINED TO MOOCK DEALERS

CANTON—Plans for the "Turn Your Own Corner Campaign" were given to more than 50 Westinghouse refrigerator dealers in the surrounding territory at a recent meeting held by the Moock Electric Supply Co., local distributor.

H. M. Moock, president and general manager of the distributorship, outlined the activities scheduled, and P. Y. Danley, merchandising manager of the central district, talked on "Selling With Westinghouse."

Gives History of Westinghouse

J. W. Johnston, refrigeration supervisor of the central district, talked on "Look Behind the Name." His talk, which gave dealers a picture of the history of Westinghouse in the electrical industry, was supplemented by a slide film.

J. E. Hugo, central district sales promotion manager, discussed plans for the "spring showing." R. M. Beatty, sales development representative, reviewed the features of the Westinghouse refrigerator.

G. E. Kitchen Opened In Springfield Store

SPRINGFIELD, Mass.—A three-day electric kitchen school marked the opening here of the General Electric kitchen and General Electric shop in Stieger's Department Store.

The school was in charge of Miss Clara Dean of the home service bureau of General Electric's refrigeration department, Cleveland. Several hundred attended the kitchen school, in which the electric range, refrigerator, and dishwasher were demonstrated.

RIGHT OUT IN FRONT!

The Quality is the Same - - But the New Price is—

\$97 Installed
PLUS FREIGHT



IN keeping with its policy of giving Leonard dealers every possible competitive advantage, the Leonard Refrigerator Company has made sweeping price reductions on its entire line—with a new low base price of \$97.00 installed (plus freight), for Model L-425.

This is not a special model, designed for competition purposes. It's exactly the same beautiful, dependable 1933 Leonard that was recently introduced with such spectacular success at a much higher price. It has not been cheapened or changed in any detail. This fact gives Leonard dealers a real advantage in selling against refrigerators designed or built to meet a price.

Model L-425 has the sturdy one-piece steel exterior finished in hard, non-fading Leonard lacquer—one-piece interior of famous Leonard porcelain—all-porcelain cooling unit—Chillometer with 8 freezing speeds—Steady Kold Defroster (refrigerates while it defrosts)—exceptional shelf room and ice capacity.

Leonard offers equally spectacular value in 9 other standard models (4 all-porcelain). At former, higher prices Leonard sales were the sensation of the industry—now the dealer opportunity for volume and profit is, we believe, unique. Write or wire for information, as desirable territories are rapidly being closed.

LEONARD REFRIGERATOR COMPANY
14256 Plymouth Road, Detroit

Star Cooper Salesmen Help Others Improve Sales Tactics

CHICAGO—As a means of increasing its retail sales and improving the technique of its retail salesmen, R. Cooper Jr., Inc., Chicago General Electric distributor, is running a "trial board contest" in each of its retail stores as a part of G. E.'s national Man Hunt sales drive.

Every week, the three highest-ranking salesmen in each retail outlet are appointed members of the store's "trial board." All salesmen of the store who have not made their quotas during the week past are summoned to appear before the board for trial.

After examination of the non-quota-makers, the star salesmen of the board make recommendations as to how sales methods of the defendants may be improved, and submit these

recommendations to H. W. Gifford, Cooper's vice president in charge of retail sales.

Mr. Gifford studies the reports, and refers the salesmen to the proper persons for additional sales training.

All of the distributor's retail stores are pitted against each other in the contest, with the result that each outlet's crack salesmen are anxious to improve the ability of their less able fellows, to better their store's chances of winning a large share of awards.

Advantage of this type of contest, says S. Nides, sales promotion manager of the distributorship, is the fact that the poorer salesmen are more receptive to correction by their co-workers than to instruction given by an executive of the organization.

LEONARD

ELECTRIC REFRIGERATOR

COMMENT

BY F. M. COCKRELL

Who Is Buying Refrigerators?

ARE dealers actually selling any refrigerators this year? If so, what kind of people are buying? And if they buy, do they pay? If they pay, where do they get the money?

After eight weeks of bank holiday, which has tied up Detroit business in double bow knots, an inhabitant of this befuddled city may be pardoned if he seems suspicious of anybody who claims to be selling goods in the old-fashioned way.

For the benefit of readers in distant parts who are so hepped up over beer that they have forgotten all about bank holidays, it should be recorded that the two big banks in Detroit, including the one to which this paper entrusted its hard-earned funds, are closed and are going to stay closed. Up to the time of this writing, the 800,000 depositors have received a grand total of 10 per cent of their seven hundred million dollars. Thirty per cent more is promised but the indications are that about 50 per cent is gone to the dogs.

Advertising Picks Up

After the first few weeks, mainly spent in rustling cash for payrolls and postage, business in the News plant began to show signs of new life. Subscriptions rolled in continuously throughout the money panic days but we suspected that the checks and dollar bills must be coming from dealers who did not read the daily newspapers. When advertising orders also increased, we figured: (1) that the manufacturers were selling refrigerators, or (2) they were crazy with the depression.

If the manufacturers were selling, then one of two things must be happening. Either they were loading up some new dealers, heretofore undiscovered, or the old dealers were making really truly sales. But even the latter remote possibility was not entirely convincing to a Detroit. Perhaps they had run amuck on credit or were simply giving away refrigerators. This industry has done a lot of foolish things in the past and I once heard a top executive of a very large company threaten to "give them away," so such a procedure would not be terribly surprising.

A Swing Around the Circle

Anyway, I wanted answers to those questions and decided to get first hand information direct from the field. I figured it would be a good idea to drive around a few states, drop in on dealers where I found them, and see for myself. So this survey is unheralded, unscientific, and in nowise comprehensive.

With wife and daughter (no school, account of 10-day Easter vacation) I left Detroit Friday, April 14, made brief stops in Toledo, Sandusky, Vermillion, and Cleveland, and put up for the night in Canton, Ohio. Next day, nosed into Cambridge and Marietta, Ohio, and thence to Charleston, W. Va., and to Roanoke, Va. Here I am looking over notes and will report the story so far.

Toledo Refrigeration Co.

Toledo, Ohio, 50 miles south of Detroit, seemed too close to home so I stopped only for red lights. Changed my mind, however, on sighting the new-looking display room of Toledo Refrigeration Co. at 506 Main St. Two big display cases and half a dozen household units in view.

Met C. J. Herkel, president; C. D. Katterhenry, and R. E. Tasher. In business just four months, selling Servel and Potter household, Friedrich commercial cases, Fedders coils and beer coolers. Have sold a dozen home jobs of which five were for cash.

They say that railroad men, firemen, and policemen are the best prospects. Farmers around Toledo are in the market. A 10-foot display case just sold to a combination chain store, also for cash. Beer business looks good. Four salesmen outside. Principal competition is Frigidaire, Kelvinator, and Norge. Financing done through C.I.T.

Mr. Herkel must be sold on Potter for he has put one in his own home. (Over in Cleveland later in the day I found that Walter Daily still believes that Potter is just selling stock.)

Ohio Public Service Co.

We spotted a good cafeteria in Sandusky and had fresh perch for lunch. Found the Ohio Public Service Co. store closed at 12:45 p. m., probably for Tre Ore services which are well attended in this part of the country. Business stops for three hours on the Friday before Easter.

Nice Frigidaire window display on one side of the entrance (Earl Doty please note) and electric range in the other. Four Frigidaires and one G. E. on the floor inside.

Lake Erie Power & Light Co.

Vermillion, Ohio, has a population of 1,440 and both banks are closed, but J. D. Gundrum of Lake Erie Power & Light Co. told me they had sold six units since the banks closed and five of these sales were for cash. One went to a baker, one to a pool room owner, one to the auditor of the power company, and two to fish men. (Vermillion is on Lake Erie.) Wife of one of the fish men runs a beauty parlor. Sizes sold were 6 and 7 ft.

They sell G. E., Frigidaire, and Westinghouse. Had four household sizes on the floor, also a G. E. water cooler and a 17-foot repossessed G. E. priced at \$540. Majestic is their principal competition.

Prices are as follows: Frigidaire, porcelain, 5.7 ft., \$197.50; Westinghouse, 6 ft., \$184.50; General Electric, 6.7 ft., \$235; Frigidaire, 4 ft., \$99.50. Other items on display: Easy washers, Westinghouse and Hotpoint ranges.

According to the records, which a young lady looked up, they sold 65 in 1931, only 25 in 1932, and expect to sell 40 or 50 units in 1933. Ten sold this year to date.

The power company finances its own time payment sales. Charges 6 per cent per year. Operates stores in three other towns: Bellevue (population 6,500), Gibsonburg (population 2,000), and Greensprings (population 1,400). C. W. Hodgson is manager at Vermillion. The main office of the company is in Sandusky.

Cleveland Banks

People here seem to be numbed by the bank situation and dumb about doing anything, same as Detroit. Bankers still out of jail, even though all the Community Fund money was dumped into a big Trust Co. just four days before it locked its doors. (In Detroit they grabbed a million dollars of Welfare Funds just loaned to the city by the R.F.C.)

Cleveland papers are explaining how a new bank is to be organized with government aid according to specifications of Mr. Woodin and the Treasury Department (same as in Detroit).

In both cities it is gradually dawning on the credulous citizens that they have been gypped out of a lot of money. Apparently the newspapers are afraid to tell the inside story or they are under control. Business men are so involved as bank directors or stockholders (subject to assessment) or because of heavy loans to themselves or their companies that they cannot open their mouths.

Clevelanders listen to Father Coughlin, radio broadcasting priest of Detroit, and have an outspoken Rabbi of their own, but they still do not know who got their money or just whom to blame. Obviously, Cleveland is no place for a bank-burned Detroit to go to regain his faith in human nature. I ordered a suit of clothes from an honest tailor in Cleveland (who hasn't fooled me once in the past 15 years) and moved on.

Ohio Power Co., Canton

At Canton, Ohio, Saturday morning I visited the electric show on the main floor of the Ohio Power Co. building. It had been in progress for four days (April 12 to 15). Misses Haight and Wise conducted a daily cooking school on one of the upper floors, but the next demonstration was not due until 2 p. m. so I missed that.

Exhibitors of electric refrigerators were: Canton Hardware Co. (Servel), Stark Marble & Tile Co. (G. E.), Standard Heating & Plumbing Co. (Crosley), Worth C. Myers Co. (Frigidaire), Crystal Park Hardware Co. (Westinghouse), Livingston Furniture Co. (Apex), Eclipse Electric Co. (Grunow), Peoples Globe Furniture Co. (Kelvinator), Moock Electric Supply Co. (Westinghouse), and Sears, Roebuck & Co. (Coldspot).

Canton's bank rating: One bank opened 100 per cent, one closed and two operated by conservators.

Canton industries: Canton Stamping & Enameling Co. going strong, making kitchen ware for Woolworth stores. Canton Tin Plate Co., ditto, making sheets for the above enameling company and others. Hygienic Products Co. (Saniflush) and Climalene Co. (Climalene and Bowlene) sales are good and price of materials is down so both are making money. Employees of these companies are good prospects for refrigerators.

Government employees and school teachers are also good prospects according to J. W. Brothers, in charge of the Servel exhibit. Unlike Chicago it appears that Canton school teachers are getting paid.

16 Buyers Pay Cash

C. H. Wonn of the General Electric booth told me that they had made 36

sales up to April 15 which was their quota for the month. They sold 16 for cash after the banks closed. A truck driver bought one, a garage service man took another, two went to branch managers of oil companies, a couple of customers were widows, two others were bakers. There are plenty of prospects available, according to Mr. Wonn.

Geo. A. Battista at the Kelvinator exhibit answered my question by saying "You can sell most anybody. They all want one."

H. E. McCord of the Moock Electric Supply Co. (Westinghouse) says that the buyers are mainly in the \$1,500 to \$2,000 income class and that 6- and 7-cu. ft. models around \$200 are the best sellers in Canton.

The man in charge of the Frigidaire exhibit for Worth C. Myers Co. informed me that they had sold 10 during the week. He had no complaints about business.

Up the street I saw an Electrolux store but had enough evidence that refrigerators are being sold in Canton. McKinley's old home town seems to be fairly prosperous for these times. The very modern Onesta hotel charged me \$8.00 for two small rooms. We had dinner in Massillon, intended to stay overnight but the hotel was terrible and the waiter recommended the Onesta over in Canton.

Greten Co., Cambridge, Ohio

Cambridge, population 18,000, three banks open and one closed. Saturday afternoon, the town full of cars and people, raining, no place to park. Certainly looked busy and prosperous but maybe the farmers all came to town because it was too wet to plow.

Finally found curb space near the Greten Co., 915 Wheeling Ave., Kelvinator dealer for seven years.

"Sold any for cash?" "Yes, two. One to a lawyer and another to the manager of the A. & P. store."

Expect business to be better in 1933 than it was last year. Six household units in stock.

No G. E. dealer in this town since the power company quit selling appliances, but plenty of competition from Electrolux, Crosley, Frigidaire, Norge, Spartan, Westinghouse, and Mayflower.

Industries: two potteries working two days a week. Coal mines running half time or less. Glass plant business better due to orders for beer bottles.

All through Ohio were beer signs. In every town and village storekeepers of all varieties were jumping into the newly-legalized business.

Wainwright Music Co., Marietta, Ohio

Marietta, a town of 15,000 population on the Ohio river, has three banks open and one closed. The largest bank is being operated by a conservator. It is the old home town of the Dawes family. (Including Brig. Gen. Charles G. Dawes, chairman of the board of Continental City National Bank & Trust Co., who was heckled by Chicago school teachers last Monday. His reply: "To hell with trouble makers.")

White Rose gasoline is made here by National Refining Co. The plant employs about 100 men and runs three shifts a day. White Rose has made only one cut in wages (10 per cent) since the peak of 1929. The head office is in Cleveland.

Other Marietta industries include a division of the Remington-Rand Co., The Air-O-Lite Co. (metal ventilators which are built into store fronts), International Derrick Equipment Corp. (oil well supplies), a glass plant, a chair factory, a table factory, and plants which make imitation stone and concrete silos.

W. E. Wainwright, president of the Wainwright Music Co. (large furniture store), 125 Putnam St., sells Crosley and Norge and has been in the electric refrigeration business for five years. He is very enthusiastic about the Crosley Shelvador.

No Frigidaire Dealer Here

His competition is mainly General Electric, Westinghouse, and Kelvinator. There is no Frigidaire dealer in this town since the West Penn Power Co. quit merchandising on Jan. 1.

Mr. Wainwright finances his own time payments and always takes a note and chattel mortgage. He is an old time credit man and knows a good risk when he sees one. He does not expect business to be any better during the first half of the year but looks for an improvement during the second half.

"Have you sold any electric refrigerators for cash," I asked him, thinking of the experiences reported by other dealers.

"No, I haven't sold any refrigerators for cash," he said, "but two customers recently paid cash for grand pianos."

He told me the story of one lady in the town who had long wanted a Mason & Hamlin grand piano which cost \$1,950. She had the money in the bank but hated to spend it. When the national bank holiday was declared her hopes of having the coveted piano faded. She was simply sick about it. Then the bank opened up 100 per cent. She grabbed her money and hustled

right down to the Wainwright store. Now she is tickled pink. She has a piano to enjoy and admire and no money in the bank to worry about.

Marietta Dealers to Hold Show

The Marietta dealers are going to hold an electric refrigeration show May 2 to 4 at the Betsy Mills club. One of the wealthy citizens of Marietta presented the clubhouse to the women of the town as a memorial to his departed wife.

Marietta is in one of the pioneer oil fields of the country and the territory is loaded with natural gas. The gas interests make it a practice to issue periodic reports that the gas supply is nearly exhausted but, according to Mr. Wainwright, that is the bunk.

Nice pavement from Marietta to Parkersburg, W. Va., but not so good from there to Charleston. A narrow asphalt road winding through the mountains makes a bad combination with a rainstorm. Seven miles of mud between Sandyville and Ripley successfully negotiated just as darkness fell. And when it gets dark in the West Virginia mountains on a rainy night it is dark and no foolin'.

West Virginia Beer

West Virginia also has beer. After checking into the Hotel Daniel Boone, I went up the street to look for a florist (Saturday night before Easter). A couple doors from the florist, a truck man was unloading a keg of beer. A street crowd watched the ceremony of dropping the keg to the pad on the pavement. Returning 10 or 15 minutes later, I stopped in to watch a couple dozen customers quaff the new brew. I didn't try it myself but one of the young customers said it was good stuff. It must have been highly potent because one of the boys immediately started to sag and had to be led away to the back room by a couple of friends.

(To Be Continued Next Week)

CRUISER SELLING BOATS EQUIPPED BY KELVINATOR

LOS ANGELES—Kelvinator's seaworthiness will be demonstrated to boatmen and prospective boat owners along the Pacific Coast when a 4-cu. ft. model Kelvinator installed in a special 55-ft. cruiser skirts the coast this summer.

The Kelvinator was selected by the H. A. B. Sneve Co., representative of marine equipment manufacturers, which is equipping "the perfect cruiser" as the best means for giving boating enthusiasts in 75 Pacific ports an opportunity to see latest developments in marine furnishings.

The Kelvinator is powered by a 32-volt d.c. motor which obtains current from a special lighting plant installed on the craft. Kelvinator literature and folders will be carried on the cruiser and will be distributed to visitors who are interested in marine refrigeration.

The specially equipped "boat show boat" will start its long cruise at Ensenada, Mexico, and will visit practically every port of importance up the coast to Juneau, Alaska.

FRIGIDAIRE CIRCUS PULLS CROWDS TO SHOWROOMS

ZANESVILLE, Ohio—F. Wilking & Sons Co.'s "Frigidaire circus" has been creating interest and pulling in showroom crowds on its daily tour of Zanesville and nearby Ohio communities, according to George H. Wilking, president.

The parade is made up of two trucks, manned by uniformed Frigidairemen. The first truck is a public address system in itself and broadcasts selling arguments and music from the latest recordings to city and country folk alike.

On main streets, the caravan is parked and as crowds gather, salesmen on the truck contact prospects and show them the standards and super models the rear truck carries.

36 BRAZILIAN BUTCHERS BUY KELVINATORS

SAO PAULO, Brazil—Kelvinator-preserved beef, barbecued in Brazilian fashion, was the bill of fare at a "churrasco" held recently to celebrate the sale of Kelvinator equipment to 36 butchers.

The new Kelvinator users invited their employees and friends to the affair, which was presided over by R. Gorham, factory representative, and officials of Campos Salles Y Cia, distributor.

ROGO MAKES ADDRESS AT BROOKLYN MEETING

BROOKLYN—G. E. Rogo, Leonard district manager in the Northeastern territory, gave one of a series of educational talks to women sponsored by the Brooklyn Eagle Home Guild recently. Mr. Rogo's subject was "Useful and Unusual Refrigerator Features."

OKLAHOMA CITY DEALERS HOLD COOPERATIVE SHOW

OKLAHOMA CITY—Local dealers of electric refrigerators and the brands they exhibited at the recent refrigerator show here include: Brown Electric Co., Norge; Jenkins Music Co., Ice-O-Matic; Spurrier's, Inc., Leonard; W. C. Dance, Frigidaire; Westinghouse Electric Supply Co., Westinghouse; Rich-Con Hardware Co., Kelvinator; Harbour-Longmire, Majestic; Radio Corp., Crosley; Hughes-Bozarth-Anderson, Grunow; Montgomery Ward, Tru-kold.

Manufacturers exhibited General Electric, Mayflower, Servel, and Stewart-Warner models. Mrs. Virginia W. Daniel of the Kelvinator laboratory staff conducted a cold-cooking class, and demonstrators of the Oklahoma Gas & Electric Co. assisted at the show.

C. F. ADAMS IS ELECTED DIRECTOR OF G. E. CO.

SCHENECTADY, N. Y.—Charles Francis Adams, Secretary of Navy in President Hoover's cabinet, was elected a director of the General Electric Co. at the annual meeting of the stockholders, in Schenectady on April 18.

Other directors were re-elected. Owen D. Young, chairman of the board, presided.

President Gerard Swope in his address to the stockholders called attention to salient points in the annual report and announced results for the first quarter of 1933.

Orders received for the first three months amounted to \$25,511,644, compared with \$33,404,642 for the corresponding quarter last year, a decrease of 24 per cent.

Sales billed for the first quarter of 1933 amounted to \$26,101,040, compared with \$37,876,399.05 for the same period of 1932, a decrease of 31 per cent.

Profit available for dividends for the quarter was \$2,838,810.44, compared with \$5,152,423.60 for the same three months a year ago. After payment of dividends on the special stock, profit available for dividends on the common stock was \$2,195,049.74, compared with \$4,508,677.85, for the first quarter of 1932.

This is equivalent to 8 cents per share in 1933 and 16 cents in 1932 on the 28,845,927 shares outstanding in both periods.

12 G. E.'s Sold for Cash In Grand Rapids

GRAND RAPIDS, Mich.—Two outbursts of sales activity have served to lead Al Truax, manager of the G. E. "store within a store" home appliance retail selling organization located in Trankla's department store here, to believe that the "corner" has been turned.

On the day following the opening of the Old Kent bank, which had been closed since the moratorium, six G. E. refrigerators were sold—all for cash.

During the first three days of the week following Easter Sunday—normally a poor trading week—this organization sold eight refrigerators, six of them for cash.

Calls for First Wife; Sells Second One

CHICAGO—While looking through his prospect file recently, Frigidaire Territory Manager Kristufek found a two-year-old prospect card and turned it over to Charles Yelton.

Salesman Yelton called at the address given, found that the housewife whose name was listed on the card had died. Second wife, however, was at home, and interested in electric refrigeration.

When he left the house there was a signed order in Mr. Yelton's pocket.

UTILITY TRANSFERS THREE HOME ECONOMISTS

FAIRMONT, W. Va.—Mrs. Frances Glancy, formerly home service representative in the Fairmont division of the Monongahela West Penn Public Service Co., has been transferred to the company's Wellsburg division to fill a vacancy left by Lora Milam when she took up her work in Parkersburg. Betty Harper will now have charge of home service activities in both Fairmont and Morgantown.

SHEPARD STORES SELL LIBERTY LINE

PROVIDENCE, R. I.—Shepard Stores, organization of retail outlets in this city, have taken on the line of Liberty electric refrigerators, manufactured by the Liberty Refrigeration Corp., according to officials of the manufacturing organization.

CENTURY OF PROGRESS

UTILITIES TO DEPICT USES OF ELECTRICITY

CHICAGO—Now in the final stages of preparation is the exhibit of the central station industry which will occupy the entire second floor of the Electrical building at A Century of Progress—Chicago's 1933 World's Fair—to be held from June 1 to Nov. 1.

Theme of the exhibit will be the utilization of electricity in the home, in industry, business, commerce, and agriculture, with a background depicting the development and increasing acceptance of electrification.

90-Ft. Diorama

Most outstanding feature of this entire display will be a huge diorama—largest ever made—which will picture on its 90-ft. expanse the processes involved in production and distribution of electricity.

Animated with lights and flowing water, this monstrous plastic picture will portray to fair visitors the manufacture of electric current by hydro-electric plants along mountain waterfalls, and its passage through transmission systems to homes, business buildings, and farms located many miles from the sources of power.

Self-Explanatory Displays

Originators of the exhibit intend that every unit of the display shall be so constructed as to be self-explanatory. Working models of basic production devices, glass replicas of more complicated apparatus, and actual equipment used in current consumption will be shown to make the exhibit understandable.

Use of electricity in the home will be demonstrated in three full-sized displays of living room, kitchen, and basement. Air-conditioning equipment will be one feature of this exhibit.

A complete set of farm buildings in model size showing the latest developments in design of such buildings will give an overall picture of farm electrification. Details of this picture will be filled in by displays of actual equipment which perform many of the tasks connected with farm life.

Model Schoolroom

General illumination controlled by the photo-electric cell, and blackboard lighting will feature the model schoolroom. Value of talking pictures in education will also be demonstrated. Use of electricity in medicine and surgery will be shown in a modern operating room.

Five model stores will show newest methods of lighting commercial establishments, and will demonstrate the use of light as a silent salesman, as well as its advantages for operation of store appliances. Industrial aspects of electricity's utility will also form an important part of the central station industry exhibit.

50,000,000 Expected at World's Fair

CHICAGO—After analyzing attendance records for 20 world's fairs held since that of London in 1851, traffic experts employed by officials of A Century of Progress estimate that approximately 50,000,000 people will attend the Chicago exposition between June 1, the opening date, and Nov. 1. During the past 10 months, 1,000,000 persons have visited the fair grounds here, and more than 850,000 admissions have been paid. Sunday, March 12, ranks highest in number of paid admissions for a single day, as 20,009 people paid the 10-cent charge to visit the grounds on that date.

Frigidaire Installed in Model Florida Home

CHICAGO—A Frigidaire will be installed in the model house which the state of Florida will have as a part of its exhibit at A Century of Progress to be held in Chicago this summer.

The house was designed by Robert Law Wild, Miami architect, to meet the requirements of persons residing in semi-tropical climates.

It will be located in the home and industrial arts section of the World's Fair.

GRUNOW INVITED TO EXHIBIT IN HALL OF SCIENCE

CHICAGO—Officials of Grunow Corp. have been invited to display the new Grunow refrigeration unit in the Hall of Science at the Century of Progress to be held in Chicago this summer.

In this building, space for commercial displays is not for sale.

Mural to Picture Alternating Current

CHICAGO—Alternating current is the theme of an inlaid micarta mural designed and manufactured by the Westinghouse Electric & Mfg. Co. for its exhibit at the Century of Progress Exposition which opens in Chicago on June 1.

This theme is carried out by means of sheet aluminum, dyed in various colors and cut to shape. The colored, cut-out patterns are then inlaid in the gleaming black surface of the micarta.

Niagara Falls—which was harnessed in 1893 by George Westinghouse in the world's first large scale, alternating current, water power development—is the mural's central display.

Surrounding the falls scene is a large gear wheel symbolic of power and industry. The background is a map showing sections of several states, designed to convey the idea of distance. Different cities are represented by characteristics peculiar to them.

With another decorative micarta mural, Westinghouse will portray the far-reaching effects of radio in drawing closer together all parts of the world.

Westinghouse' two radio stations, KDKA and W8XK (short wave), are given prominent positions in the mural, and concentric rings centered about the map location of Pittsburgh (home of KDKA) show how radio has bound all parts of the world together with this type of communication.

Side panels on the mural illustrate the advantages and pleasures enjoyed by the average radio owner.

CONSTRUCTION IS RUSHED ON SPECIAL BUILDINGS

CHICAGO—Special buildings of industries and corporations included in the architectural scheme of A Century of Progress, Chicago's World's Fair of 1933, are being rushed to completion for the opening of the fair, June 1.

Already completed are the General Motors building, Dairy building, Chrysler building, and Southern Cypress building. Sears & Roebuck's building at the north gate is 90 per cent finished.

Firestone Tire & Rubber Corp. building is well under way. The Johns-Manville Corp. building is nearing completion.

Other special buildings on which work is being pushed are those of: Thomas A. Edison, Inc., Indian Refining Co. (including its 200-ft. thermometer), Time, Inc., Christian Science Publishing Society, American Radiator and Standard Sanitary Corp., and the Religious Exhibits Committee.

Display to Show Ways Of Fusing Porcelain

CHICAGO—When World's Fair visitors view the display to be made by the Porcelain Enamel Institute, they will see demonstrated the methods used in fusing porcelain enamel on metal for use in refrigerators, ranges, kitchen utensils, building materials, etc.

The institute's exhibit will include an enameling furnace in which various souvenirs will be finished in enamel for the spectators. Exhibit of the institute will be staged in the General Exhibits building, according to fair officials.

Robot to Lecture on Food Chemistry

CHICAGO—World's Fair visitors with a flair for food chemistry will be privileged to stop at one of the fair lecture halls this summer and hear a lecture delivered on that subject by a robot 10 ft. tall.

Mr. Robot will illustrate his learned talk with various chemical displays, and will point to motion pictures showing the operation of his own digestive organs.

The mechanical lecturer will wear a size 74 blue serge coat, size 36 collar, grey striped flannels, and size 34 white canvas shoes.

ELECTROLUX TO BE USED IN MASONITE HOME

CHICAGO—An Electrolux refrigerator will have a place in the kitchen of the Masonite Home, being erected for the World's Fair by the Masonite Corp., manufacturer of Masonite and Preswood products. All appliances in the house will be gas operated.

132 Leonard Dealers in 29 States Appointed by Petrie

DETROIT—Appointment of 132 new dealers, located in 29 states, was announced this week by R. I. Petrie, general sales manager of the Leonard Refrigeration Co. of Detroit and Grand Rapids.

By states, the new dealers are as follows:

Alabama—Loveman, Joseph & Loeb, Birmingham.

Arizona—Reliable Hardware Co., Chandler; O'Malley Lumber Co., Phoenix.

California—Pacific Heating Co., San Anselmo, and Estes Electric Appliance Co., 640 S. Western Ave., Los Angeles.

Connecticut—Seymour Furniture Co., Seymour.

Illinois—Simons Furniture & Rug Co., Aurora; Hugh M. Kelly Hardware Co., Waukegan; H. E. Buch, McHenry, and in Chicago, the following: Jefferson Park Furniture Co., 5749 Lawrence Ave.; L. Klein Department Store; E. W. Rothe & Co., 6544 S. Halstead St.; Frank's Department Store; Scanlan Furniture Co., 3508 N. Cicero Ave.; Nu-Era Construction Co., 3257 Irving Park Blvd.; Davis Co., State and Van Buren Sts.; Home Electric Appliance Co., 5309 West Chicago Ave.; and Leonard O. Moburg, 1049 Lawrence Ave.

Indiana—Maytag Appliance Co., Hammond; Sherfey & Kidd Co., Brazil; Household Electric Co., Muncie; Kirk's, Flora; Colonial Furniture Co., Indianapolis; and Sullivan Radio House, Huntington.

Iowa—Williams Brothers, Pringhar; Spencer Harmony Hall, Iowa City; and Rukgaber Hardware Co., Washington.

Kansas—Crook Furniture Exchange Co., Hutchinson; W. B. Hayes Plumbing & Heating Co., Atchison; and Adams-Bennett Music Co. and Crook Furniture Co., both in Wichita.

Kentucky—Home Furniture Co., Pikesville; Harlan Furniture Co., Harlan; and Halls-Watson Furniture Co., Corbin.

Louisiana—Johnson Furniture Co., Shreveport.

Massachusetts—Striber Furniture Co., Roxbury; National House Furnishing Co., Gloucester; Morton Furniture Co., Dor-

chester; American Supply Co., Worcester; A. E. Robertson, 170 Common St., Lawrence; Pioneer Radio and Hardware Co., Needham; E. C. Eldredge, Harwichport; Simmons Tire & Radio Co., 1281 Hyde Park Ave., Hyde Park; and Atlas Furniture Co., Springfield.

Maine—Bailey's Music Store, Wilton; Lawrence Music Co., Lewiston; G. A. Lawrence Co., Rockland; and Augusta Maytag Co., Augusta.

Minnesota—Boutell Brothers Co., Selzer's Furniture Co., and White-Wander Furniture Co., all of Minneapolis; Austin Electric Co., Austin; and Stein Furniture Co., St. Paul.

Mississippi—Presley Auto Co., Pickens.

Missouri—Meehan Electric Appliance Co., 3154 S. Grand, St. Louis.

Nebraska—D. R. Martin & Son, Geneva.

New Hampshire—E. Morrill Furniture Co., Dover.

New Jersey—Rahway Auto & Supply Co., Rahway and Linden; Leonard Sales Co., 323 Rochell Ave., Rochelle.

New York—Hanson Brothers, 1133 Broadway, New York City; John A. Querker, 85 Main St., Dobbs Ferry; H. E. Block & Son, Patterson; Philip Loewy, 48 Palisade Ave., Yonkers; Platt & Tweedle, Inc., Elbridge; Marcellus Radio Co., Marcellus; Alvin Booth & Co., Groton; Madden and Van Wie, Baldwinville; Hall, Poole & Dell, Skaneateles; George B. Norris, 306 N. Tioga St., Ithaca; R. B. Cruikshank, Northville; Devoe Electrical Co., Troy; Spaulding & Payne, Summit; M. C. Reightmeyer, Richmondville; Elmer G. Gunther, Dansville; Marion Hardware Co., Marion; A. J. Wadsworth, Hilton; Bush Burnham Co., Manchester; Hamilton & Parker, Bath; Kellogg Hardware Co., Mt. Morris; Schreck Brothers, Auburn; L. A. Witherill, Inc., Syracuse; H. P. Chase, Melrose; Walsh Motors, Watervliet; Schmidt & Koerner, Troy; Frank H. Carncross, Plainville; Curtis-Shearn Music Co., Watertown; Lashers Hardware Co., 1007 E. Fayette St., Syracuse; Charles L. Canham, Inc., Chatham; H. E. Mason & Sons, Delhi; Learman Radio Co., Inc., Summit Electric & Hardware Co., and Neal, Clark

& Neal, all of Buffalo; McClure & Dorwaldt, Inc., and Albany Engineering & Sales Corp., both of Albany; and Kuckman Electric Co., Jack Cores, Prince Furniture Co., Meyer & Johnson, Monroe Radio & Electric Corp., M. Kurlinsky & Son, A.B.C. Washer Shop, and Albert Electric Co., all of Rochester.

New Mexico—E. F. Olds Plumbing & Heating Co., Las Cruces.

Ohio—Geneva Hardware Co., Geneva; John Ballreich & Sons, Fostoria; Central Electric Co., Chillicothe; Electric Service Co., Shadyside; and D. Davis Furniture Co. and Edward F. Herbert & Brothers, Inc., both of Cincinnati.

Oklahoma—Al Henderson Refrigeration Service, Tulsa; Jim Farrimond, Coalgate; and Dobyns-Lentz Hardware Co., Stigler.

Pennsylvania—Jones-Lyne Motor Co., Dormont; Electrical Equipment Co., Mt. Pleasant; Minke & Miller, Rochester; New Philadelphia Hardware Co., New Philadelphia; Ralph J. Bauer, 2503 Perryville Ave., Pittsburgh; and B. Blumenthal, Philadelphia.

South Carolina—Stricker Jewelry Co., Chester.

South Dakota—Egge Electric Co., Watertown; and Matt Krilanovich, Lead.

Tennessee—Gallatin Buggy & Implement Co., Gallatin; and Cain, Sloan Co., Nashville.

Texas—E. M. Roberts Electric Co., Henderson; King Radio Shop, Denton; Muncy Motor Co., Whitesboro; and Ormsby News Co., Mexico.

Wisconsin—Henderson Hoyt Co., Oshkosh; Kunzelmann Esser Co. and Piasecki Radio Shoppe, both of Milwaukee; and John J. Blied & Sons, Madison.

Wyoming—Rock Springs Electric Co., Rock Springs.

G. E. DEALER SPONSORS BASKETBALL TEAM

JAMESTOWN, N. Y.—Turner Radio Shop, General Electric refrigerator dealer here, is backing a basketball team, which has just won the championship for western New York. Ted Turner, head of the dealership, personally has guided the team to victory.

The team will play Buffalo's leading team soon, says Frank W. Wolf, G. E. distributor in Buffalo.

Don't let Good Prospects slip through your fingers!



Get them ALL with BAKER'S Dual FRANCHISE (It Blankets the Entire Market)

Doubtless, many times, you've happened on customers for a big commercial refrigeration plant but had nothing in your line to fill their needs. Or, if the big commercial equipment is your field, you've probably passed up plenty of customers for smaller, automatic self-contained units.

Now, with Baker's dual franchise you can sell all

the refrigeration prospects in your territory. There's a Baker product for every need... from the smallest to the largest installation, in every field.

Your prospect has already heard of Baker Ice machines. For over a quarter century the name Baker has meant latest in design, supreme quality... resulting in low maintenance and operating cost.

Let Us Explain How Baker's New Dual Franchise Will Mean More Profit For You. Write and tell us about your present set-up and territory and we will explain this new plan.

Baker Ice Machine Co., Inc.

1518 · EVANS ST · OMAHA · NEBRASKA ·

Factories · Omaha · Ft. Worth · Los Angeles · Seattle



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The Newspaper of the Industry

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Commercial Business Looks Better

COMMERCIAL refrigeration sales have been the sore spot in the otherwise healthily active refrigeration industry during the last few years. Their decline from year to year since the beginning of the depression has been not only disheartening but startling, and not at all in keeping with the statistics on sales of household electric refrigerators.

Sales of commercial equipment by Nema members in 1932 totalled only \$14,071,794 as compared with total sales in 1931 of \$24,692,545. And in 1930, sales of commercial equipment brought \$30,490,021 to Nema manufacturers.

This means that in 1932 these companies failed by more than 10½ million dollars to reach the sales mark they set in the preceding year, and fell almost 16½ million dollars under their 1930 commercial sales record.

Most students of the industry blame this state of affairs on little else but the depression. The market once envisioned as so tremendous has shrunk to discouraging proportions. Hot prospects disappeared as retail food stores and food serving establishments went out of business by the hundreds and thousands.

Business failures also caused the repossession of considerable quantities of commercial systems bought on time payments, and these reverts caused no end of embarrassment and overstock difficulties to manufacturers, distributors, and dealers. Result was that last year the industry practically quit trying to do any great quantity of commercial business.

This year, however, manufacturers are renewing their hope and confidence in the possibilities of the commercial market. General Electric, for instance, now has for the first time a complete commercial line. Gibson, which has hitherto restricted itself to household refrigeration, now is selling commercial machines. Likewise, All-American Mohawk. Zerozone is now concentrating its efforts on commercial sales. Frick, veteran manufacturer of industrial refrigeration equipment, now has a full commercial line to offer.

Other examples could be cited, but these may be sufficient to show that a number of manufacturers are backing their judgment that the commercial market may reopen to some extent this year by spending heavily for tools and dies and production machinery to enable them to sell commercial systems.

Until the advent of beer, however, distributors and dealers were less than lukewarm about the idea—they were entirely cold. But when the news was headlined that 3.2 beers and ales could be brewed and sold, these sales organizations found so many orders for beer coolers coming in over the transom that they got "all hepped up" over this rather unexpected new market.

Today it appears as if beer may be the salvation of the commercial refrigeration business this year. Moreover, its advent has so materially augmented the income of hotels, restaurants, clubs, and other food serving establish-

ments that they are now in a good position to purchase long-needed refrigeration equipment for their foodstuffs. All commercial refrigeration business should undoubtedly be stimulated by the sudden appearance of this new market.

If distributors and dealers can get into action quickly enough to capitalize on the possibilities of the present renewed interest in commercial refrigeration, that branch of the industry may show a curve upswing for the first time since 1929. And a good many concerns are risking some money that that upswing is due.

Opportunity of the Century

A NUMBER of leading refrigeration manufacturers are preparing to take full advantage of opportunities afforded them to exhibit their products at the Chicago World's Fair which opens June 1 on the Windy City's man-made fair grounds.

These manufacturers evidently believe with Rufus Dawes, who is in charge of the project, that the Fair offers to manufacturing concerns the chance of a century to bring their products to the attention of millions of people.

Among those companies which are planning exhibits for the exposition are General Electric, Gibson, Grunow, Kelvinator, Leonard, Norge, Stewart-Warner, and Westinghouse. Frigidaire will have a display in the specially built General Motors building. Sears Roebuck & Co. will display its Coldspot refrigerators as a feature of its general exhibit.

Reports from these companies indicate that considerable ingenuity has been exercised to give these displays a maximum of appeal for the 50 million people whom traffic experts estimate will attend the gigantic show. Each exhibitor has a single aim—to impress so strongly in the visitors' minds the name of his refrigerator that these people will buy units of that make when they go back to their homes.

Aside from the great number of people who will attend A Century of Progress, manufacturers see in the fair another advantage which is important from the standpoint of product display—the frame of mind of the visitors. People come to such an exposition to look at things. They are on a short vacation, and they will take all the time they like to stop and inspect something which interests them. Designers of the exhibits know, however, that their showmanship must be grade A to compete for attention with the scores of arresting sights which will be a part of the fair.

A Century of Progress is not, however, of interest to the refrigeration industry solely because of the chance it offers for display of equipment to the multitudes. Under sponsorship of the World's Fair, a number of organizations within, or closely associated with, the refrigeration industry will meet in Chicago in June.

During the first week of A Century of Progress, the Radio Manufacturers' Association and the Edison Electric Institute (which organizations are somewhat representative of two distinct camps of electric refrigeration manufacturers) will hold conventions in Chicago. The American Oil Burner Association will hold its annual conclave from June 12 to 16.

And during the last week of June, 15,000 engineers, members of 20 engineering societies in the United States (including the American Society of Refrigerating Engineers) will gather for a huge conference in Chicago. Concurrently with this conference will be held the Sixth Midwestern Engineering and Power Exposition in the Coliseum, where 300 manufacturers will have exhibits including air-conditioning and refrigeration equipment, ventilating and heating apparatus.

Because A Century of Progress offers the electric refrigeration industry an opportunity to exhibit its products to millions of people and to bring its leaders together for conference with each other and with executives of allied industries, it appears likely that heavy representation of the entire industry will descend on Chicago during June and make that city their operating headquarters.

LETTERS

Beer Boom?

San Diego County
Electric Refrigeration Bureau
San Diego, Calif.
April 13, 1933.

Editor:

The events of the last few days leaves one wondering whether the coming of beer is destined to force better business through a tide of spending, or whether the thirst of the public will subside to the extent that we will notice little improvement.

If anything like the pace of the first few days is kept up, we will all be ready to announce that prosperity is assured, for from all reports, considerable increased activity has been noted in a number of lines not directly connected with the dispensing of this popular beverage.

However, the volume of beer-cooling business as predicted here, has been negligible, less than a half-dozen jobs having been sold for the opening.

This does not mean that business will not materialize later; it simply means that due caution is being exercised by those who are not sure of anything yet, except the fact that the beer supply for the next few weeks will be intermittent and unsatisfactory.

When some semblance of order comes into this field, business will undoubtedly appear for those who are handling commercial equipment. In the meantime, most dealers will be content to see business in general take an upward swing, which seems likely, if the pace continues.

At any rate, people are demonstrating that they really wanted the stuff, and one of the biggest problems seems to be getting it for them.

J. CLARK CHAMBERLAIN,
Secretary-manager.

Great Help

3245 Washington Blvd., Cleveland
March 10, 1933.

Editor:

I have been a constant reader of your very fine trade paper since its birth. I have watched it grow to a healthy and robust child. Your timely editorials and your true understanding of the problems of our great industry have been a source of great help and enjoyment to me.

My best wishes for your continued success.

J. M. DIERKES,
Williams district sales manager.

Closer Touch

Canton Hardware Co.
Serval Distributor
Canton, Ohio

Editor:

We are glad to recommend your magazine, ELECTRIC REFRIGERATION NEWS, to the dealers selling Serval refrigeration in our territory.

We feel that if they receive your publication they will keep in much closer touch with the industry and hence be in a better position to promote their own sales.

J. W. BROTHERS,
Refrigeration dept.

Ice Industry's Plan

Louisiana-Mississippi Ice Association
1418 New Orleans Bank Bldg.
Telephone Raymond 4427
New Orleans
March 29, 1933.

Editor:

Thank you for your letter of March 20 and for publishing the letter on the editorial page of the March 15 issue.

We have received several letters endorsing this plan. A copy of one is enclosed herewith.

WALTER F. COXE,
Secretary.

Oklahoma Gas & Electric Company
Oklahoma City, Okla.
March 23, 1933.

Dear Mr. Cox:

I have before me a memorandum for Mr. F. J. Meyer to whom I referred your letter of March 6.

Mr. Meyer has tested your thought with others in our organization and with some from the outside. He finds practically a uniformity in the belief that a compartment such as suggested in your letter of March 6 would be desirable.

Mr. Meyer points out that care should be used in placing the storage box or ice container so that it would not increase the frosting on the refrigerating unit.

J. F. OWENS,
President.

Complete

The first issue of the "ELECTRIC REFRIGERATION DIRECTORY and MARKET DATA BOOK" of the BUSINESS NEWS PUBLISHING Co. of Detroit has arrived to hand and the publishers are to be congratulated on the completeness of this useful volume.

REFRIGERATION, COLD STORAGE, AND AIR CONDITIONING,
Sydney, Australia.

Visit Omaha

Baker Ice Machine Co., Inc.
Omaha, Nebraska
April 17, 1933.

Editor:

Since coming to Omaha I have not had the opportunity to see many of my Eastern friends, but have read with considerable interest news of their activities in your paper.

Your travels seem to be confined East of the Mississippi but really Omaha is worth visiting, and I am enclosing some booklets for your information.

As beer seems to be a timely topic, we will send you some interesting information regarding new brewery installations we are now making. One in the East was the largest new brewery refrigeration installation in that particular state since the 3.2 beer was passed.

J. M. FERNALD,
General manager.

Entertaining

Wagner Electric Corp.
2125-27 Reading Rd., Cincinnati
April 15, 1933.

Editor:

I have been taking the ELECTRIC REFRIGERATION NEWS for a good many years, which I find entertaining and very instructive.

P. J. FORSYTH,
Branch manager.

Best Investment

Krebs Service, Inc.
Washington and Michigan Sts.
Michigan City, Ind.
March 14, 1933.

Editor:

We think the three dollars we spent for the subscription to ELECTRIC REFRIGERATION NEWS a short time ago the best investment we have ever made as the information on the refrigeration industry is the very latest and to the point and is certainly what you need in selling today.

FRANK M. KREBS,
President.

More News About—

"I would like to see more news about Potter refrigerators. Your paper is surely most interesting and I always greatly enjoy reading it from 'kiver to kiver'."—Morton L. Moe, Seattle, Wash.

"Personal and other news about servicemen and their work."—Frazier C. McNeill, 308 Walnut St., Paris, Tenn.

"Methods of collections on slow accounts—profitable disposal of repossessed refrigerators."—R. H. Muir, Inc., East Orange, N. J.

"Standards of comparison sales analysis—public acceptance."—Paul A. DuPont, 4286 Campus Ave., San Diego, Calif.

"How to figure refrigeration requirements. Approved methods of installation."—Henry H. Hauer, 128 W. Locust St., Sta. C., Milwaukee, Wis.

"Service problems, hints, and new ideas about servicing."—Harry Zysman, 541 E. 139 St., Sta. X., Bronx, N. Y.

"Maintenance work."—Geo. S. Fulk, 764 Wright Ave., Camden, N. J.

"Engineering and servicing."—A. L. Post, Lock Box 1014, Springfield, Mass.

"Kelvinator."—F. L. Balthazor, c/o Home Makers Service, 2144 Atwood Ave., Madison, Wis.

"General information pertaining to the industry."—E. L. Kenna, 404 Briggs, Harrisburg, Pa.

"Service hints on all makes of refrigerators."—J. V. Hiebert, Fulda, Minn.

"Technical information and engineering problems."—W. G. Winkler, 1664 Pullan, Cincinnati, Ohio.

"Grunow refrigerators."—H. R. Curtiss, 44 Alvarado, Berkeley, Calif.

"Suggestions on selling and sales campaigns."—A. E. Heyson, 2350 Cornaga, Far Rockaway, N. Y.

"The methods of large corporations in paying regional managers, zone managers, branch managers, etc. Whether it is on a straight salary basis or on commission—I heard this a few days ago."—James L. Kirby, 1325 Scott St., Covington, Ky.

"Solid carbon dioxide refrigeration."—F. Raebek, 775 Riverside Dr., Sta. M., New York City.

"Air conditioning."—J. H. Farrell, 351 N. 28th St., Camden, N. J.

"Interested generally."—J. F. Ruebner, 37 Touraine Rd., Grosse Pointe Farms, Mich.

"Test equipment, refrigeration service helps, and service in general."—The Lew Bonn Co., 2504 University Ave., St. Paul, Minn.

COMPANION MERCHANDISE

OIL BURNER GROUP PLANS TWO SESSIONS

CHICAGO—The program for the annual convention of the American Oil Burner Association, which will be held here June 12-16, has recently been announced by Harry F. Tapp, executive secretary of the association.

Instead of a program calling for business sessions four days of the convention, as in the past, the program this year calls for two "brass tack" sessions, one on the morning of June 14 and one on the morning of June 15, according to Harry F. Tapp, executive secretary of the association.

Dealer-Day Program

The dealer-day program of June 14 includes the following speakers and subjects: A. K. Perego of Perego Corp., Milwaukee, will speak on "What the Oil Burner Dealer Executive Should Know"; E. W. Pattison, Western vice president, Silent Glow Oil Burner Corp., will discuss "Range Burners and Their Place in the Oil Burner Industry"; Lionel L. Jacobs, Electrol of New Jersey, is to speak on "Selling Boiler Burner Units"; and C. J. Bassler, General Electric air-conditioning distributor in Chicago, will present "A New Dealer's View of the Oil Burner Industry."

Engineering Session

An engineering session, for the benefit of the entire industry, will be held on June 16, at which the following principal speakers will talk: Prof. L. A. Beeley, Yale University School of Engineering, "Converting Gas Boilers to Oil"; Hugh M. Robinson of Underwriters' Laboratories, "The Underwriters' Laboratories and Its Relationship to the Oil Burner Industry"; W. F. Schroeder of Schroeder and Curry, St. Louis, "Selling and Installing Heavy Oil Burner Equipment."

A paper on air conditioning will be given by a speaker, yet to be announced. John H. McIlvaine of the McIlvaine Burner Corp. of Evanston, Ill., will preside at the engineering session.

A manufacturers' conference and a special dealers' meeting will be held on the afternoon of June 14 and the annual meeting of the association will be held on the subsequent afternoon, followed by the annual banquet on the evening of the same day.

Uses of Monel Metal Are Described

NEW YORK CITY—How a kitchen sink has opened a wide market for an industrial metal is told in a new booklet, "The Trend in Profits" just published by The International Nickel Co., Inc.

This booklet shows how Monel metal, which five years ago was used almost exclusively for industrial purposes, is now serving a growing number of purposes in the home. It emphasizes the part played in this development by the introduction three years ago of a Monel metal kitchen sink and lists the applications which have followed as a direct result, including cabinet sinks and tops, range tops, hot water boilers, washing machines, etc.

Seven separate editions have been published, for manufacturers, department and house furnishing stores, plumbing houses, merchandising plumbers, builders, hardware jobbers, public utility and kitchen cabinet dealers, electrical dealers and stores. Each describes the marketing activities behind this development as well as the 1933 promotional plans.

WLW WILL BROADCAST CINCINNATI SHOW

CINCINNATI—Arrangements have been made to broadcast several features of WLW, Cincinnati, direct from the stage of Music Hall, during the Electrical Progress exposition, to be held here May 8 to 13. This exposition is sponsored by the Cincinnati Electrical club and the Cincinnati Times-Star. Nationally advertised electrical appliances of all kinds will be exhibited at the show.

STANDARD FIELD MEN STUDY COOKING

TOLEDO—The five factory representatives of the Standard Electric Stove Co., manufacturer of electric ranges, are trained to prepare, cook, and serve an electrically cooked meal. The representatives are: F. M. Dostater, H. P. Denison, Charles H. Swartz, W. P. Swartz, and H. H. Venable.

Ice Co. Revitalized By Laundry Business

NEW YORK CITY—With 70 per cent of its annual business confined to four months of the year, the American Ice Co. of this city last year decided to add activities that would help stabilize its employment, and to offset inroads which it was beginning to feel from mechanical refrigeration, and after considerable study entered into the household laundry and dry cleaning business.

How this activity served to smooth out the employment curve and to stimulate the executives of the company to a new interest in their business is told by Charles C. Small, president of the firm, in the April *Executive Service Bulletin*.

Capitalize on Contacts

"When we analyzed our business, we clearly perceived that we were engaged in a household service, and that new activities, if wisely selected, should capitalize on the friendly contacts with the householders that we had developed over a great many years," Mr. Small states.

"Such an additional household service was that of laundry and dry cleaning, and there were conditions within these industries which made us feel we could do a creditable job."

"We selected a site in Long Island City, erected a modern plant near the Long Island Railroad, where the passing trains acquaint thousands of passengers with the existence of this new laundry service of the Knickerbocker Ice Co. (a subsidiary of the American Ice Co.)."

Outside Men Get Leads

"We started with one important advantage. Our company does an enormous amount of house-to-house business. We turned to our outside men for leads, offering them a monetary reward for each customer secured. Names of prospects in great numbers came to us in this way."

"We estimate our Long Island City plant to have a volume, when fully equipped, of \$1,000,000 annually. Its success will do much to stabilize our operations."

"The development of the laundry business has had an electrifying effect upon our executives. Therein lies an important point, which heads of other companies might possibly consider."

Release Executive Ability

"We have been in the ice business a long time. The chief technical problems have been solved fairly well. We have reached our normal sales development. Our sales volume has been at approximately the same level for a number of years. In other words, there was an insufficient outlet for the energies of the sales, production, and engineering talent within our organization."

"This new laundry business of ours has released this executive ability, and afforded a new channel with brand new problems. In a sense, it is re-making and revitalizing our entire executive organization."

"At the present time, we have more than 6,000 customers on our books. We keep an accurate analysis of how customers come to us."

"The largest percentage are recommended by satisfied patrons. The next largest number are attracted by our modern plant, which they see in their ride to business over the Long Island Railroad. The third largest number learn of our laundry through the signs on our ice trucks. We constantly are adding to our list through all these agencies."

GREENWALD JOINS MOTOR WHEEL SALES STAFF

LANSING, Mich.—C. W. Greenwald has been appointed to the sales staff of the heater division of Motor Wheel Corp., according to an announcement made recently by M. F. Cotes, director of sales.

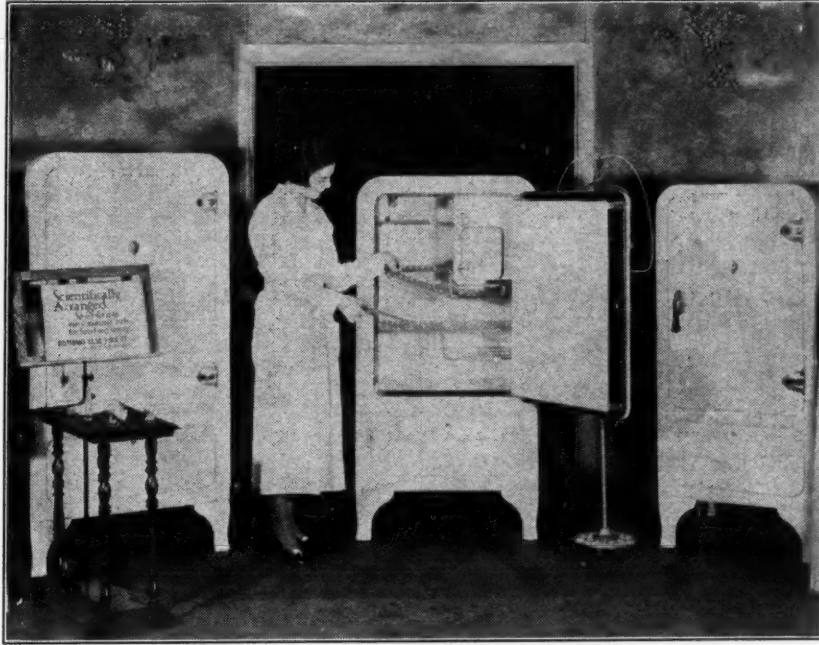
Mr. Greenwald, formerly with the Independent Stove Co., has had many years experience in the oil burning range field.

He has been given a roving assignment with Motor Wheel Corp. and will contact and assist dealers in every part of the country.

KING BUYS FRIGIDAIRE

CAIRO, Egypt—Two 13-cu. ft. Frigidaires recently were installed in the main palace of the King of Egypt, according to Gregorakis & Co., local Frigidaire dealer.

At Television Show



This display of Grunow refrigerators occupied the main show window of the Peoples Outfitting Co. in Detroit during the store's television show recently. Daily Grunow announcements were made by television.

NEW OIL WATER HEATERS REDUCED IN PRICE

LANSING, Mich.—A reduction in prices on the complete line of MW automatic oil burning water heaters has been announced by M. F. Cotes, director of sales of the heater division of Motor Wheel Corp.

An 80 per cent increase in total business during 1932 is pointed to by MW officials by way of explanation of this lowering of water heater prices at this time.

Toridheet Publishes Market Survey

TOLEDO—Five authorized dealers in Michigan and Ohio have been appointed by the Standard Electric Stove Co., manufacturer of electric ranges. The dealers are: Chas. H. Roat Music Co., Battle Creek, Mich.; Lynn Lyon & Co., Findlay, Ohio; Lion Store, Toledo, Ohio; Wm. D. Hardy & Co., Muskegon, Mich.; and R. H. Winters Electric Co., Toledo.

CROSLEY BRINGS OUT RADIO FOR TRAVELER

CINCINNATI—A new five-tube superheterodyne a.c.-d.c. radio receiving set in the low price range, designed to fill the dual purpose of a traveler's set and a "second" receiver for the home, has recently been presented to the field by Powel Crosley, Jr., president of the Crosley Radio Corp.

The new set, known as model 163, will retail at \$19.95 complete with tubes and will be available in two cabinet styles: the "companion," a wooden cabinet of hand-rubbed walnut finish; and the "Travette," a compact metal cabinet which may be had in any one of three color combinations. "Travette" has a carrying case.

The new Crosley receiver is equipped with full floating moving coil, dynamic speaker, and a 20-ft. antenna wire which may either be dropped out of a window or stretched out on the floor. It operates on any 110-volt current, either a.c. or d.c.

Standard Appoints New Range Dealers

CLEVELAND—"Dollars from Empty Coal Bins" is a new booklet published for prospective oil burner dealers by the Cleveland Steel Products Corp., manufacturer of the Toridheet oil burner.

A comprehensive survey of market conditions was made in response to requests from specialty distributors who are seeking sustaining volume from new lines. The results of this survey are incorporated in the book.

The survey shows that 28 of 60 specialty distributors interviewed declared an intention to add new lines. Of these, 20 distributors (or 71 per cent) intend to add oil burners.

A FACT THAT 10 YEARS IN THE REFRIG-
ERATION INDUSTRY HAS TAUGHT US

NOT... how big
BUT *how sound*

Bigness is no criterion of strength. A business is strong only to the degree that its whole structure is sound. We have said before and we repeat it again—we would rather operate conservatively and soundly than strive for undue bigness with its attendant penalties. Recent events have vindicated the wisdom of such a policy.

UNIVERSAL COOLER CORPORATION
DETROIT, MICHIGAN BRANTFORD, ONTARIO

MANUFACTURERS OF A COMPLETE LINE OF HOUSEHOLD
AND COMMERCIAL REFRIGERATION EQUIPMENT

ENGINEERING

Die Castings Require Little Machining For Refrigeration Parts

Zinc and Brass Alloys Have Ample Strength, Readily Plated for Hardware

By Herbert E. Chase, Mechanical Engineer

NO engineer familiar with the facts questions the great utility of die castings in the electric refrigeration field. Yet there is not the slightest doubt but that die-cast parts could be used not alone with satisfaction, but with material cost saving in many instances where similar parts are sand-cast, stamped, or otherwise formed for the same purpose at present. It is not contended, of course, that sand castings, stampings, and forgings have no place in the electric refrigerator, but rather that a fuller understanding of the present status of die castings would result in their more extensive use with considerable benefit to the refrigerator manufacturer.

About 90 per cent of all die castings are made from zinc-base alloys, chiefly because these alloys are less costly and for other reasons are better suited to the purpose. Aluminum die castings are materially lighter than zinc, and take a polish which in certain instances renders plating unnecessary on exposed parts.

These are important considerations in some applications but are of doubtful advantage in refrigerator construction. Both the dies required for aluminum and the castings themselves are more costly than for zinc, and plating is considered much more difficult.

Brass die castings, the only other type used in refrigerator work, to the writer's knowledge, cost more than either of the other types named. Although they have somewhat superior physical qualities, these are in excess of the requirements for this type of service, and the yellow color is not favorable when a white metal finish is to be applied by plating, for if the plated film wears off, as it often does on exterior hardware, it results in an unsightly appearance.

As will be seen from the accompanying table, zinc-base alloys having a tensile strength up to 44,000 lbs. per sq. in. are available. The corresponding figure for a typical brass die-cast alloy is given as 65,000 to 75,000 lbs. per sq. in. and for a special alloy termed "Brastil," 90,000 to 95,000 lbs. per sq. in.

These figures, with the exception of those for brass, are for properly-compounded alloys in quite general use. They are readily realized in practice if the die caster is careful to avoid contamination with deleterious metals.

The latter, especially lead or tin in zinc mixtures, must be kept below the maximum specified, as their presence in larger quantities accounted for by far the largest proportion of failures in early die castings.

Most reliable die casters know these facts and are careful to maintain conditions that will insure satisfactory service from die-cast parts that are intelligently applied.

By the use of the latest forms of high-pressure equipment, smooth sections as thin as 0.030 in. can be cast readily, but in most die casting heavier sections are preferred and facilitate smooth finishes with ordinary machines.

In the case of zinc, at least, physical properties, including impact tensile strength and hardness, are improved by casting at pressures up to 1,400 lbs. per sq. in., but the figures named above are readily secured with lower

Effects of Age on Strength of Die-Cast Alloys

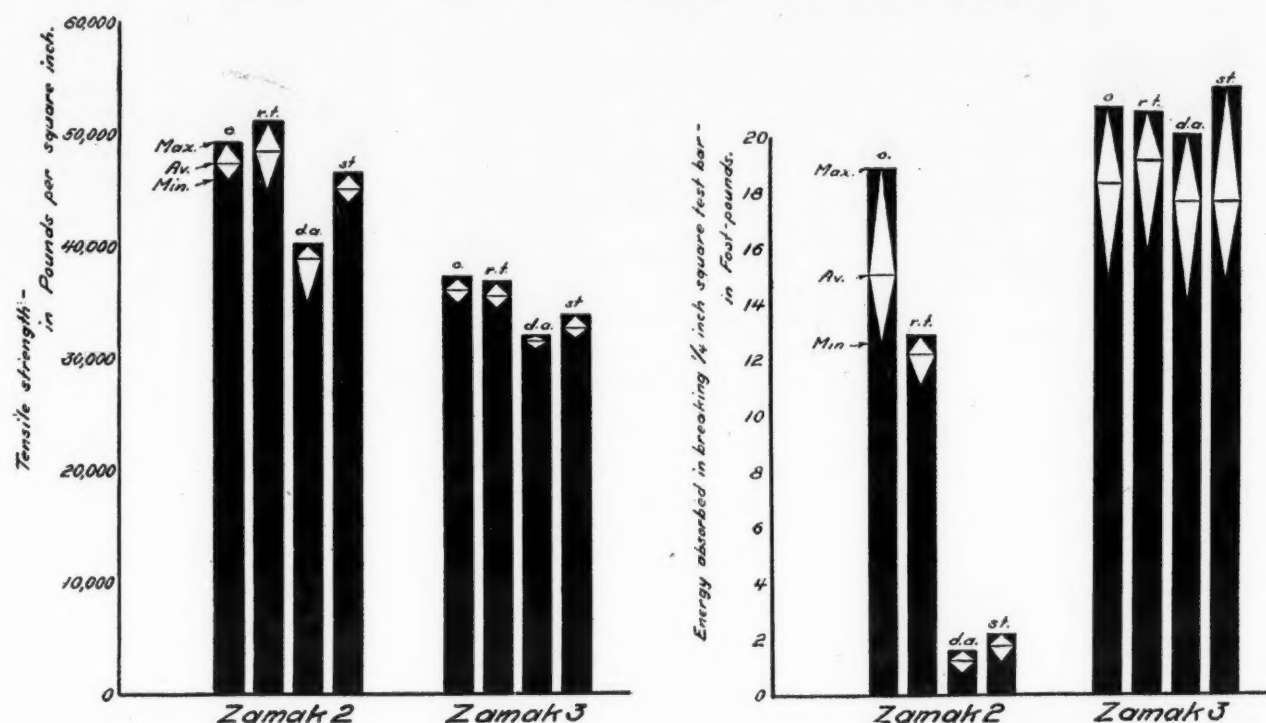


Diagram illustrating the effects of aging on (left) the tensile strength and (right) the impact strength of two typical Zamak zinc-base die-casting alloys. o indicates the original sample; r.t. a similar sample after one year at room temperature; d.a. after one year in dry air at 95° C.; and st. after 10 days in steam at 95° C.

pressures ranging around 300 to 500 lbs. in the average die-casting shop.

Almost no machining, aside from removal of fins, and, if plating is required, fine grinding and buffing, is needed on the average die-cast part.

Die cost is always a factor in the cost of die castings, but the use of modern production methods has done much to reduce such cost. Frequently, when either a die-cast or a stamped part will meet requirements, dies for casting cost materially less and are less expensive to maintain than those for stamping.

This is likely to be the case particularly when two or more stamped parts

parts as hinges, a stamping or forging of given metal thickness may be stronger than a zinc or aluminum die casting of the same thickness, but it is equally true that properly-designed die-cast zinc hinges and latches have ample strength and are being used with excellent success.

Some such castings are made and recommended by at least one company which produces both die castings and stampings and hence is in a position to know their relative merits.

According to some authorities, die castings lend themselves better than stamped parts to decorative effects, but this may be disputed by experts in stamping. That strikingly handsome effects are obtained with die-cast hardware, however, is made apparent by the accompanying illustrations of die-cast zinc hinges and latches. These are chromium-plated, the center band being polished and the remainder of the fittings being given a dull brushed finish which makes a pleasing contrast.

Although the writer knows of one instance in which some die-cast hinges failed in refrigerator service, the cause of the failure was found to be the result of using a sharp corner where a fillet should have been left. When a fillet was provided, as, of course, it should be in any design of die or other casting which is to be subjected to considerable stress, breakage no longer was encountered.

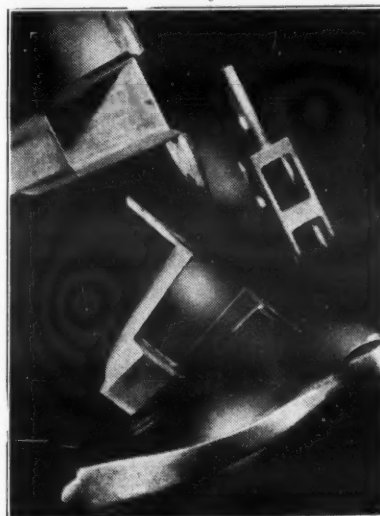
It seems obvious, in fact, that when a material having a tensile strength as high as 44,000 lbs. per sq. in. is available, as in zinc die castings, and extremes in weight saving are not required, that it is a simple matter to make parts of adequate strength.

If, however, a designer wants material of still higher strength which can be die cast, brass die castings, such

as are shown in another illustration, are available at a materially increased cost as compared to zinc.

Aside from the color disadvantage

Brass Die Castings



Brass die castings for refrigerator hardware, made by the Doehler Die Casting Co. for the D. L. Auld Co. These are stronger than zinc parts of the same thickness and are more expensive.

referred to, they are said to be entirely satisfactory. Their finish is not likely to equal that of well-made zinc castings, consequently grinding and polishing may cost somewhat more, (Continued on Page 11, Column 1)

Physical Characteristics of Various Die Castings

Alloy	Zinc-Base S.A.E. No. 921	Aluminum S.A.E. No. 903	Typical Aluminum S.A.E. No. 312	Typical Brass	Brastil
Composition					
Zinc	Bal.	Bal.	1.0†	40-42	Bal.
Aluminum	3.5-4.5	3.5-4.5	Bal.	0.1†	Bal.
Copper	2.5-3.5	0.1†	7.0-9.0	57-59	80-81.5
Magnesium	.02-.12	.03-.08	0.1†	...	...
Silicon	0.1†	0.10†	1.0-2.0	...	4.5-5.0
Iron	0.01†	0.007†	2.5†	...	...
Lead	0.005†	0.005†	0.1†	0.75†	...
Tin	0.005†	0.005†	0.1†	0.5-1.5	...
Cadmium	0.005†	0.005†	0.3†	0.25†	...
Manganese	...	...	0.5†	...	...
Nickel	...	...	0.2†	...	...
Impurities (other)	0.02†	0.02†	0.2†	...	...
Tensile strength, lbs. per sq. in.	44,000	35,000†	33,000	65-75,000	90-95,000
Impact strength, charpy, ft.-lb.	6.0†	10.0†	1.5	33.0	36.0
Elongation, % in 2 in.	2.0	5.0	1.0	15-20	10-17
Compressive strength, lbs. per sq. in.	93,100	60,500	...	...	...
Brinell hardness	80	63	75-80*	120-130	160-180
Melting point, degrees F.	733.6*	727.9*	1,100*	1,650	1,600
Solidification shrinkage, in. per ft.	.1492	.1380	.1250*	.1875	.1875
Modulus of rupture, lbs. per sq. in.	116,900	95,000	...	...	...
Casting temperature, degrees F.	800*	...	...	...	...
Weight, per cu. in. lbs.	0.243*	...	0.103*	0.305	0.290

*—Maximum.
†—Minimum.
These items are drawn from various sources and are not a part of the S.A.E. specifications. (Zamak 2 comes within the limits of S.A.E. No. 921 and Zamak 3 within those for S.A.E. No. 903.)

are required where a single die casting will answer the same purpose, and will avoid the need for assembly operations.

Another factor tending to reduce die costs materially, especially for parts to be cast in small to medium quantities, is the development of the so-called "unit" system of casting. This system often makes it possible to use a single-cavity die economically, whereas formerly, especially for small parts, it was necessary to make multiple-cavity dies (which were much more costly) to attain economical production.

Aging reduces somewhat the tensile strength of zinc alloys and materially reduces the impact strength of certain zinc alloys, as shown by the accompanying diagrams for Zamak alloys, which are the most widely used die-casting materials.

It will be observed, however, that, by the use of Zamak 3, which contains no copper, and is within the limits for S.A.E. No. 903 alloy, aging has very little effect upon either tensile or impact strength. This is one of the important recent developments in zinc die-casting materials.

One of the largest uses of zinc die castings in the electric refrigeration field is for hardware and other external fittings. These include hinges, latches and, in the case of water coolers and drinking fountains, faucet handles, spigots, mouth pieces and drain fittings below cup-filling spigots.

Die-cast cup holders or dispensers are also often attached to coolers, though not always regularly supplied as standard equipment. A majority of these parts are handsomely plated, usually with nickel and chromium.

As they are subject to moderate wear and sometimes to frequent polishing or cleaning operations, the plate is likely to wear through in time and expose the base metal.

As zinc is a white metal, however, such wear shows much less than if the fittings are of yellow brass. This effect of wear on plate occurs very early on the striking parts of latches and quickly shows up a brass under surface.

It is true, of course, that, for such



Undeviating in purity—reliability and uniformity, EXTRA DRY ESOTOO is produced by our own patented process specifically for use in the manufacture and service of electrical refrigerating units.

It is the Liquid Sulphur Dioxide that is always safe...always pure...always economical and trouble-free—every step in its manufacture is completed under the most rigid supervision of laboratory experts.

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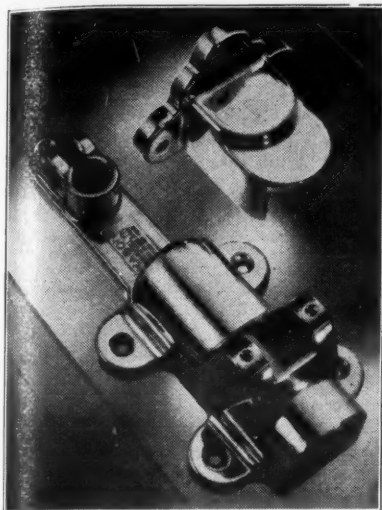
Century MOTORS

DIE CASTINGS USEFUL IN DESIGNING PARTS FOR REFRIGERATORS

(Continued from Page 10, Column 5) but plating is probably a little easier. The plating of zinc castings is now well understood, however, and is readily accomplished by experienced platers.

A good illustration of the ability of

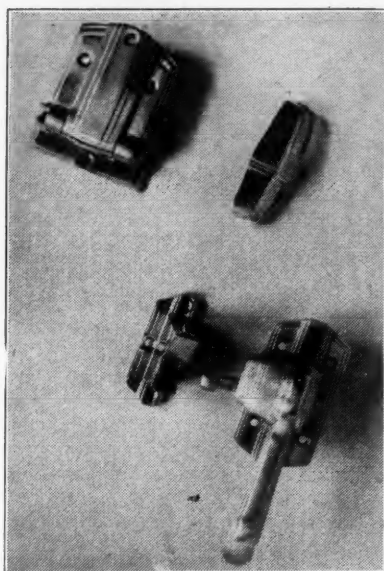
For Commercial Refrigerators



Heavy die-cast zinc lock parts for store and other large refrigerators. Such parts receive hard use.

zinc die castings to withstand service where abuse is common is their use on electric refrigerators such as are found in butcher shops, hotels, stores, etc. In such installations zinc is replacing brass. An accompanying cut

Ornamental



Ornamental zinc die-cast hardware for electric refrigerator doors. The parts are chromium plated, the center strip being polished and the other parts being given a brushed finish. (Used by Kelvinator.)

shows a heavy lock casting of this type, using a bolt an inch or more in diameter.

Considering now die castings used in the mechanism of electric refrigerating units, note the zinc parts in the large picture to the right. All of this group, as it happens, were produced by the Doehler Die Casting Co. for various refrigerator manufacturers, but many other die casters have produced similar parts. The two largest castings shown form the entire compressor case of the 1½ unit, and are tested to withstand pressures of 50 lbs. per sq. in. This compressor uses isobutane refrigerant, the case being some 10 or 12 in. in diameter.

Apparently the bearing bushings are not cast in place as inserts in this instance, but this practice is followed quite often in other types of machine castings. Sometimes shafts turn in direct contact with the die casting, as the zinc alloys have good bearing qualities. If cast from iron, the machining on this case would be quite expensive, but when die cast from zinc very little machine work is needed.

At the top of the illustration is a compressor head with integral openings for valves and valve seats. This zinc die casting is for a Trupar unit using sulphur dioxide refrigerant. If care is taken to have the SO₂ entirely free from water, zinc castings are not adversely affected by it. The head is tested for pressures of 100 lbs. per sq. in.

Next to the head is shown a die-cast belt pulley with integral projecting boss of irregular shape used on the Norge compressor. Neither of these parts could be made by any other method than die casting without requiring much more machine work than is needed when they are die cast.

Two different designs of Trupar float levers are seen at the left of the illustration, and in the lower left corner is a discharge-valve stop employed by Kelvinator. Countless small parts similar to these are die cast at very small expense and require almost no machine work for completion.

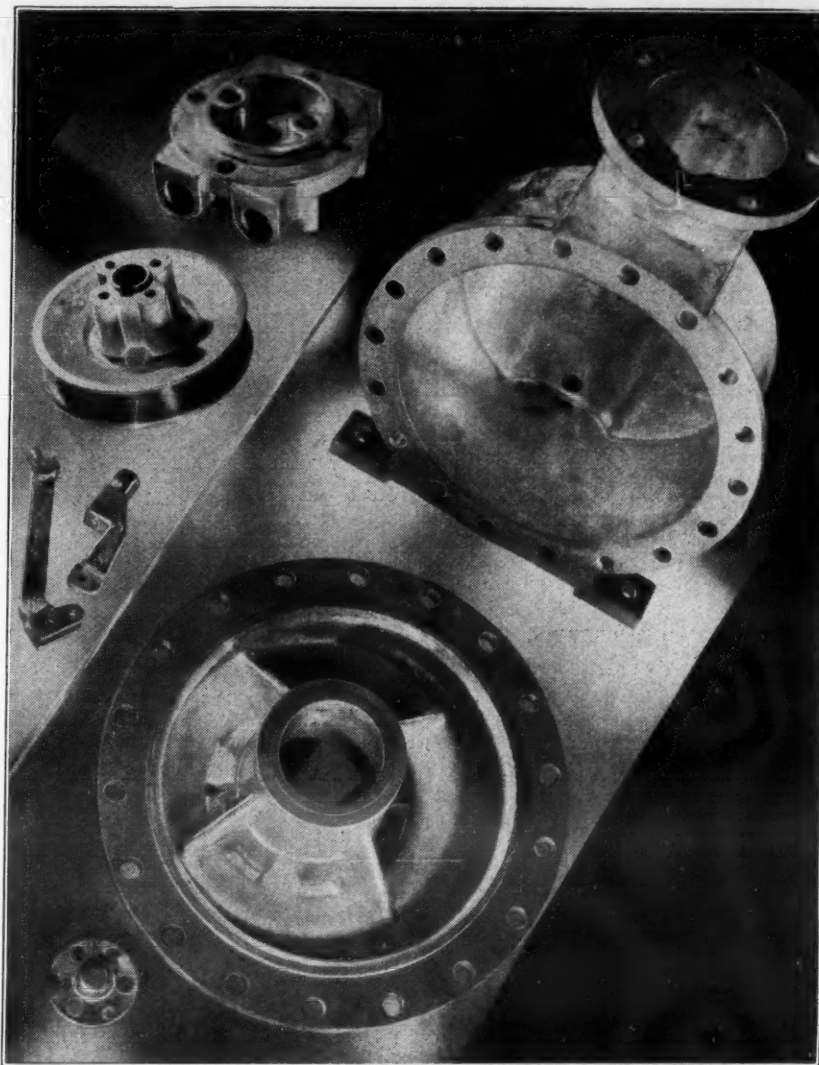
When the parts here described are considered, it is apparent that the manner in which die castings have proved their utility in the electric refrigeration field indicates that they may well see wider applications with profit to all concerned.

Besides the economy in machine work which their use involves, there is often less cost for tooling where some machining is needed. Take, for example, a casting that has a cored hole which is to receive a bushing or some other separately-machined part. If a sand casting is employed, such a hole will usually have to be bored and afterward reamed to size.

With a die casting, the inserted part can often be cast in place with

(Concluded on Page 13, Column 4)

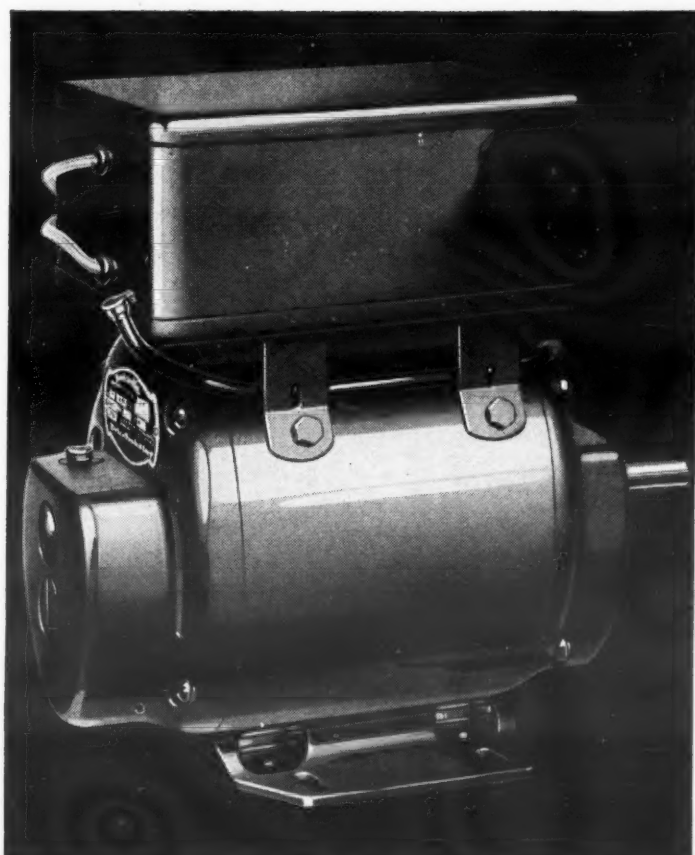
Die-Cast Compressor and Valve Parts



Zinc alloy die-cast parts produced by Doehler for several different electric refrigerator manufacturers. They are typical of many other mechanical parts which are used to advantage in refrigerator construction, and require very little machine work.

A REFRIGERATOR IS NO BETTER THAN ITS MOTOR

The motor that drives an electric refrigerator may be an insignificant factor in influencing the sale. It may never come up for attention, indeed, so long as it functions satisfactorily. Let it develop trouble, however, and at once it condemns the entire unit. Motor trouble is refrigerator trouble, in the eyes of the owner. He does not distinguish between the motor that you buy, and the compressor that you build. Almost invariably, he warns his neighbors to beware the refrigerator—not the motor—that has disappointed him. Insure



against this hazard to owner satisfaction, by equipping with Delco motors. Delcos were developed expressly for electric refrigeration service. Every detail of their design has been worked out with careful regard for the special requirements of household performance. They are quiet. They require almost no attention. They comply with starting load regulations of electric power companies. They are built to uphold the finest reputation . . . and more than two million in electric refrigeration service today are making good.



DELCO PRODUCTS CORP.

DAYTON, OHIO



AIR CONDITIONING

HOLLAND COOLS AIR BY DIRECT EXPANSION

(Concluded from Page 1, Column 1)

tion so that installation engineers can tell where mechanical refrigeration is necessary to provide satisfactory summer cooling, Mr. Cherven states.

The new Holland system has several other new refinements in design, Mr. Cherven relates. These are design of an improved control system, adoption of rust-resistant metal for the spray chamber and eliminator plates of the air conditioner, provision of five spray nozzles (instead of three) with smaller orifices to produce a finer water spray, and utilization of a canvas connector between the filter assembly and the plenum chamber.

G. E. FAN INCREASES AIR MOTION WITH LESS NOISE

SCHENECTADY, N. Y.—Increased circulation of the air without hiss of the air stream is claimed for a new type of electric fan produced by the general engineering laboratory of the General Electric Co.

The blades, of which there are three, are wide and so overlapped that in viewing the fan from the front it is not possible to see between the blades. They are so curved that, as the blades whirl, the current of air is not given a rapid and abrupt series of pushes but is uniformly speeded forward, designers declare.

The motor is enclosed in a torpedo-shaped shell, stream-lined and die cast, which also serves as the hub for the fan blades. The center portion of the guard is omitted, so that the shell and blades are visible.

The base is oval in shape and has a curved supporting column with a hinged joint. Finish is in black enamel with silver-bronze striping, polished aluminum blades and chrome trimmings; or statuary bronze with gold striping, bronze blades, and trimmings.

An oscillating fan embodying the newly designed blades has also been introduced.

List prices of these fans are \$13.95 for the non-oscillating fan, and \$14.95 for the oscillating fan. They are available for 110-volt, 50- or 60-cycle operation.

M-K-T Orders 4 Air-Conditioned Cars

ST. LOUIS—The Missouri-Kansas-Texas railroad has ordered four air-conditioned lounge cars at a total cost of \$250,000, according to M. H. Cahill, president and chairman of the board of directors. The cars will be put in service on the Texas Special.

Air Conditioning Corp. To Sell G.E. Burner

CHICAGO—Just organized for wholesale and retail distribution of General Electric air-conditioning equipment in Cook, Lake, and DuPage counties (Ill.) is the Air Conditioning Corp. here, headed by C. J. Bassler and L. M. O'Neill, president and vice president, respectively.

At the present time, the concern's operations are limited to retail sales of the G. E. oil-burning furnace, but dealerships and branches will be established throughout the territory in the near future.

Forty men are now working as the organization's retail sales force, and others are being trained for similar work. Several men are now in the field interviewing prospective dealers.

Since the distributorship was opened two weeks ago, six installations of G. E. oil-burning furnaces have been made in and near Chicago, the vice president states.

Two of the units were installed in one residence in Glenview, one in a Wilmette residence, two in Chicago homes, and one in a two-flat building in Chicago.

V-Belt Developed for Air Conditioning

PHILADELPHIA—Developed especially for air-conditioning equipment by engineers of the Manhattan Rubber Mfg. division of Raybestos-Manhattan, Inc., is a new V-belt which is supposed to have no inelasticity.

For light-duty, high-speed work, the company has designed a limber "whipcord" belt, and for heavy-duty service it has the more rugged "plycord" belt.

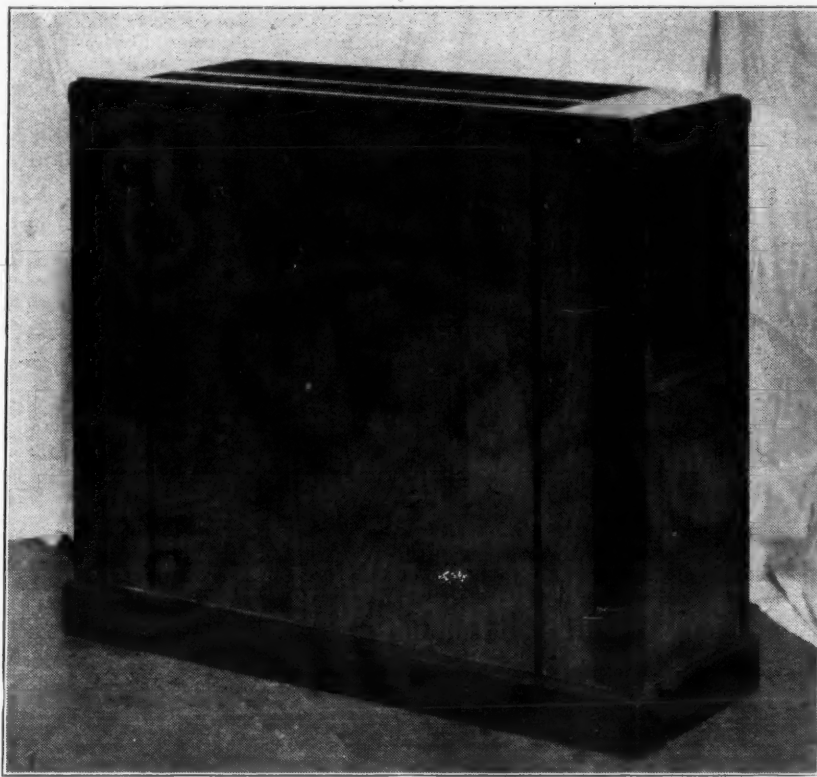
Whipcord belts consist of one layer of continuously wound cords imbedded between two layers of tie-gum. The balance of the belt is filled out with compressible rubber, enclosed in a closely woven rubberized duck jacket.

Plycord belts are built up to the required thickness and correct number of piles, then cut to the contour of the belt. Otherwise they are similar to the whipcord belts.

VOSS SHOWS OPERATION OF COMPRESSION SYSTEM

NEW YORK CITY—J. H. H. Voss, manufacturer of steel ring-plate valves for ammonia compressors, drew a 3x6-ft. Mollier diagram of ammonia and plotted lines showing the operation of a compression refrigerating system before the local chapter of the N.A.P.R.E. April 6. Other speakers were Martin Vander Veer of New Haven, Conn., vice president, and C. H. Herter, secretary of the group.

Kelvinator's Air Conditioner



Kelvinator's 1933 line of air conditioners provide the year-round functions of heating and cooling the air.

PATENTS

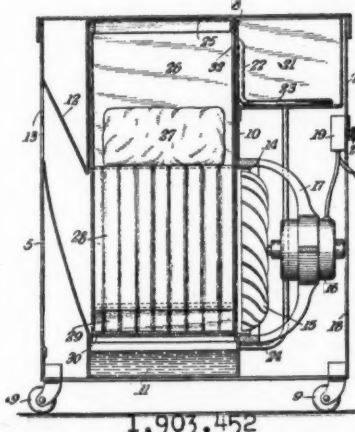
ISSUED APRIL 11, 1933

1,903,437. REFRIGERATING DEVICE. Jules Buchel, New Orleans, La., assignor of one-half to the estate of Charles Louque, one-twentieth to Lester H. Rayner and one-twentieth to Joseph Frederick Dupuy, New Orleans, La. Filed Aug. 23, 1928. Serial No. 302,760. 21 Claims. (Cl. 62-5.)

1. A refrigerating device comprising a generator, a freezer, an absorber, means for receiving absorbed material, and heat exchange means for forcing received material to the generator.

1,903,452. AIR CONDITIONING DEVICE. Joseph Grison, New York, N. Y. Filed Sept. 6, 1932. Serial No. 631,787. 5 Claims. (Cl. 62-91.5.)

4. In an air conditioning device, a cabinet having apertures in the front wall thereof, a casing mounted in the cabinet, an upwardly directed air duct attached to and communicating with the casing and



having its mouth in register with the apertures in the cabinet, a plurality of spaced vanes mounted in the casing, means for chilling said vanes to a low temperature, and means for blowing a draft of air over the vanes.

1,903,591. FLOODED TYPE REFRIGERATION UNIT. Raymond C. Haimbaugh and Anthony F. Hoesel, Chicago, Ill., assignors to Peerless Ice Machine Co., Chicago, Ill. Filed March 5, 1929. Serial No. 344,418. 2 Claims. (Cl. 62-95.)

1. A refrigeration unit comprising a hollow one-piece casting having a short portion provided with an opening, a cover for closing the opening, an outlet shut-off valve secured to the cover and communicating with the interior of said casting, an inlet shut-off valve secured to the cover and communicating with the interior of the casting, a straining element disposed between the inlet shut-off valve and the cover for straining a refrigerant fluid, and means for securing the inlet valve to the cover and for holding the straining element between said valve and the cover.

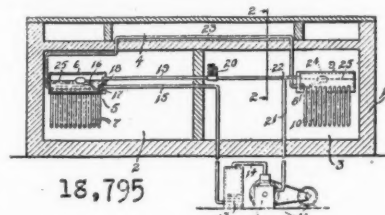
1,903,745. AUTOMATIC HUMIDIFYING APPARATUS. James J. Lawler, Mount Vernon, N. Y. Filed Oct. 29, 1931. Serial No. 571,889. 14 Claims. (Cl. 261-39.)

1. Humidifying apparatus comprising means adapted to be saturated with water, water supply means therefor, means for drawing air over the water saturated means and a part of the water saturated means being operable to shut off the water supply means.

REISSUE

18,795. REFRIGERATING SYSTEM. Franklin B. Hunt, Chicago, Ill., assignor to The Liquid Carbonic Corp., Chicago, Ill., a Corporation of Delaware. Original No. 1,746,896, dated Feb. 11, 1930. Serial No. 162,601, filed Jan. 21, 1927. Application for reissue filed June 27, 1930. Serial No. 464,411. 13 Claims. (Cl. 62-8.)

1. In combination with compartments, evaporators positioned within said compartments, means for supplying liquid refrigerant to said evaporators in series comprising a compressor and condenser, a liquid supply line connecting said condenser and the first of said evaporators, a second liquid supply line connecting said first evaporator and the second eva-



porator, means for conducting vaporized refrigerant from said evaporators to said compressor comprising a common return conduit and branch conduits connecting said evaporators with said common return conduit, and means independent of the rate of refrigerant supply for limiting the maximum level of liquid refrigerant in each evaporator.

Manufacturer Agrees Not to Use 'All-Steel' In Advertising

WASHINGTON, D. C.—In accordance with terms of a stipulation made with the Federal Trade Commission, one manufacturer has agreed to refrain from use of the words "all steel" or "all metal" in advertising its refrigerators and other sheet metal products.

The agreement further provides, announces the commission, that the words "steel" or "metal" shall not be used in any way "to deceive purchasers into believing that such products are constructed in their entirety of steel or metal when this is not true."

Name of the manufacturer was not divulged.

DEPARTMENT STORE WILL SELL WESTINGHOUSE

NEW YORK CITY—Distribution of Westinghouse electric refrigerators on Staten Island has been taken over by the F. W. Tompkins Sons & Co. department store, under supervision of Allen-Ingram, Inc., New York Westinghouse distributor here.

To handle refrigeration sales, an electrical department has been established in the store, to be run separately from other store departments, according to Laird Tompkins, general manager of the outlet.

☆

BEER COOLING EQUIPMENT

for every type installation. Mohawk Dry Type Coils and Submerged Type Coils, Storage Coolers and Bottle Dispensing Coolers. Same high efficiency as characterizes Mohawk Domestic Equipment. Prices and discounts are right!

MOHAWK REFRIGERATION

Rudolph Wurlitzer Manufacturing Company, North Tonawanda, New York

Please send complete information on Mohawk Beer Cooling Equipment.

Name _____

Address _____

☆

☆

NEW KELVINATOR AIR CONDITIONER SHOWN

(Concluded from Page 1, Column 5)

through the coils in the air-conditioning unit.

The chief difference between these two types lies in their overload capacities. In the direct refrigerant type the capacity of any unit is governed primarily by the size of the condensing unit, while in the indirect type of air conditioner a reserve refrigeration capacity can be built up in the water storage tank during the off hours to be drawn upon as needed.

Through this system, a smaller condensing unit can be specified for a given installation, and will meet the demands equally well by building up this off hour reserve, Kelvinator engineers declare.

Year-round refrigeration also is made possible by use of the indirect type of air conditioner. Because of the fact that the coils are made to use chilled water in the hot months of the year, it is possible to connect the same lines with low-pressure steam or hot water for winter heating.

Kelvinator officials have announced that literature, manuals, and other promotional material on air conditioning are being prepared, and commercial salesmen are being furnished complete information concerning the new Kelvinator air conditioners.

'Break-in Refrigerator,' Dealer Advises

HUNTINGTON, W. Va.—There's a dealer in West Virginia, according to Paul Thornburg of Foster-Thornburg, Leonard distributor in this area, who is cashing in on the well-known theory that an automobile should be broken in carefully and run at low speeds for a considerable number of miles.

"He argues that an electric refrigerator will also run better and last longer if it is broken in slowly," Mr. Thornburg says. "Hence, it is his story that the time to buy an electric refrigerator is in the fall and winter, when the unit does not operate so frequently."

"Whatever engineering authority there may be for this point of view, it provides a good selling point," declares Mr. Thornburg. "There are plenty of other good selling arguments for winter, of course—the need for proper food protection in cold weather and the dangers of 'back porch' and 'window box' refrigeration."

AUTOIRO INVENTOR TO LAND ON 'ENGINEERS DAY'

CHICAGO—A newly announced feature of "Engineers' Day" which is scheduled for Wednesday, June 28, in connection with the Century of Progress, is to be the landing in an Autogiro of Juan de LaCierva, inventor of the machine. Mr. de LaCierva will land in Soldiers Field in the midst of assembled engineers, and receive the Guggenheim Award for outstanding aviation achievements for the year 1932.

Engineers' Day is expected to attract some 15,000 technicians from many engineering societies, including the American Society of Refrigerating Engineers which is holding its annual spring meeting the same week.

TENNESSEE ELECTRIC RATES REDUCED

NASHVILLE, Tenn.—Reduction in electric rates averaging 15 to 20 per cent in territory served by the Tennessee Public Service Co. has been ordered by the State Railroad and Public Utilities Commission.

FOR COOLING

BEER



Bottled Beer COOLERS

Also Draught Beer COOLERS

Write for full information to

ESCO CABINET CO.
180 E. Market St.
West Chester, Pa.

THE sale of beer will be very different from what it used to be. More places will handle it—restaurants, hotels, stores, soda fountains, and roadside stands. Wherever beer is sold, bottled beer will be served, and cooling will be largely electric.

ESCO Electric Bottled Beer Coolers spread this large and profitable sales field before you. Scores of opportunities to sell ESCO "two-profit" installations exist in every locality.

Patented cooling coils cool bottled beer and other beverages to below 45°, quickly, economically, and efficiently, without the bother and expense of ice. Two models, priced to meet popular demand and attractively finished. Recommended by leading refrigeration unit manufacturers. Easily and quickly installed.

ESCO draught beer coolers are also available with single and double beer coils and spigots, alone, or in combination with refrigerated space for sandwich materials or bottled beer. All models can be furnished without refrigeration coils for use with ice.

Write today for complete sales plan, showing dealer helps and advertising literature.



BEER COOLING

PREMIER EMPLOYS PEARLS AND SPONGES TO CLEAN BEER COILS

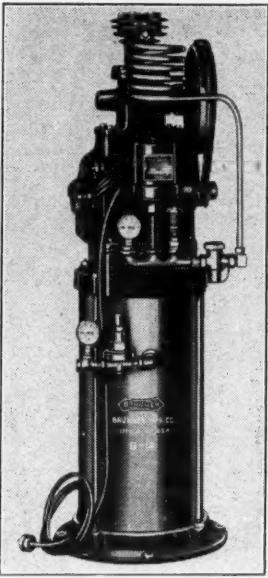
CHICAGO—A new system of cleaning beer coils, utilizing city water under pressure to force first small rock crystal pearls and then small globular sponges through the coils, has been developed by the Premier Coil Cleaner Co. of this city.

The Premier equipment consists of an assembly of three cylinders which, during the cleaning operation, is placed atop the bar above the draft arms. It is provided with the necessary valves, fittings, and hose connections.

One of the chief claims for the new system is that it preserves the gold-yellow "beer stone" coating inside the coils, thus keeping the beer from acquiring a metallic taste.

When a beer-dispensing system requires cleaning, the operator places the cleaner on the bar, connects together the two beer supply lines at

Beer Pump



Brunner's air-pressure pump.

Brunner Develops Beer Pump

UTICA, N. Y.—Brunner Mfg. Co. here has introduced a new beer pump for drawing draft beer by the air-pressure system, according to M. H. Pendergast, manager of the refrigeration division of the company.

The outfit includes an air compressor mounted over a vertical compressed air tank, and is built to place an air pressure on a beer keg to force the beer to the faucet. The compressor starts automatically when pressure in the air tank is low, and stops automatically when pressure is raised to a maximum.

The compressor is belt-driven by a 1/6-hp. motor. The tank has an air capacity of six gallons. The controller can be adjusted to maintain pressures between 30 and 40 lbs. per sq. in. or higher.

Two air gauges are provided, a check valve, a safety valve, a copper after-cooler for condensing moisture out of the compressed air, and eight feet of wire with an electrical plug. The pump occupies a 13 by 14-in. floor space, and is 39 in. high. List price with an a.c. motor is \$165; with a d.c. motor, \$175.

COMPRESSED AIR USED IN NEW DAYTON BEER PUMP

DAYTON—For applying compressed air to kegs and barrels of beer, a new beer pump has been introduced by the Dayton Pump & Mfg. Co., maker of household refrigeration compressors.

The new pump consists of an air compressor, belt driven by a 1/4-hp. motor, all mounted on a round horizontal pressure tank. Compressor is provided with a wick system of lubrication and a filter to keep oil from entering the air tank.

Mounted alongside the motor is a double pole automatic switch which starts the compressor at about 20 lbs. pressure and stops it when the pressure reaches 35 lbs. per sq. in. The tank has a diameter of 8 in., and is 24 in. long.

Overall dimensions of the pump are 26 1/2 in. long, 12 in. wide, and 22 in. high. Net weight is 68 lbs., while shipping weight is 90 lbs. Finish is orange enamel.

Accessories for operating the pump are a pressure indicating gauge, a relief valve, a drain cock to remove moisture from the tank, and a Schrader check valve to prevent air from escaping the tank during "off" periods.

13 Chicago Firms Build Beer Equipment

CHICAGO—Thirteen companies in this city are now manufacturing beer-cooling equipment for use in retail outlets. They are:

Liquid Carbonic Corp., Brunswick-Balke-Collender Co., M. Leitner Co., Kevlyn Co., S. E. Sostheim Co., Matot Co., Illinois Bar Fixture & Supply Co., Mills Novelty Co., A. Noley Co., Nathan Cohen & Son, M. Greenburg & Co., Julius Bender & Co., and Albert Pick Barth Co.

KARL PHILIPS, INC., SHOWS BEER DISPENSERS

NEW YORK CITY—Karl Philips, Inc., is displaying a new line of beer-dispensing equipment here, and is offering a designing service to assist in the development of beer gardens, etc.

ACORN BUILDS LINE OF BAR EQUIPMENT

CHICAGO—Draft beer coolers, service counters, work boards, and restaurant floor coolers for beer are now being manufactured by the Acorn Opalite-Metal Specialties Co. of this city. All coolers are suited for either ice or mechanical refrigeration, according to officials of the company.

Draft beer coolers are of the upright type with three draft arms, mounted on a cabinet which houses the cooling coils. Model 1910 in this series has a dry bottle-storage compartment below the drip pan.

When desired, a separate top-opening bottle cooling cabinet is furnished with the draft cooler. The bottle cooler, like the draft coolers, is insulated with sheet cork, metal lined, and finished outside in copper, nickel silver, Monel metal, or stainless steel.

Work boards include rinse tanks, drain board, deep box, bottle rack and box, and a coil box. These are also available in various metals.

Service counters are offered with front and end panels of porcelain or Formica, top and base of mottled rubber, and stainless steel trim. Inside linings are of copper bearing metal.

The restaurant floor coolers are of the counter type with a 5-gal. ice cream compartment, a milk bottle compartment, butter tub, and dry and draft beer-cooling facilities. Each of the two beer faucets is connected with 30 ft. of block tin coil.

The company also has a counter storage box for beer, with right and left compartments for a half-barrel of beer, a dry-storage compartment in the center for bottles, and three draft arms for serving beer. These are cork insulated and metal lined.

Die Cast Process Used in Making Hardware

(Concluded from Page 11, Column 3)

no subsequent machining required. If the hole requires reaming, only a reaming fixture will be needed for the die casting, whereas, with a sand casting there would have to be in addition a drilling or boring jig, and the casting might have to be dressed before it could be fitted into the jig satisfactorily.

With sand castings it is often found that the cast part has blow holes or porous sections which may not show up until considerable machine work has been done, with consequent loss in labor and scrap. Similar flaws sometimes occur also in the thick sections of die castings, but with this important difference: the location of the porous sections usually can be controlled, that is, it can either be eliminated by minor alterations in the die or can be shifted to an area where stresses are low so that failures in service will not occur.

Seals Porous Section

In addition, the strong, tough skin which forms against the wall of the die usually seals a porous section so that, if the entire casting is subjected to moderate gas or liquid pressure no leakage occurs. Parts that have flaws such as to cause rejections involve comparatively little loss, as very little machine work is required as a rule, and the part can be remelted without substantial waste.

Although the metal used in die castings costs more than ordinary gray iron, it is stronger, denser and, in general, more resistant to wear. In consequence, thinner sections may be used. In addition, the rate of production is high, so that, in the case of

small parts produced in fair quantities, especially, the cost per piece may be less than that for cast iron, even taking no account of the gain made through reduced machining costs.

With die castings of zinc alloys, dimensions can usually be held within 0.001 in. per inch of the nominal size especially in the case of small and medium-size parts, and even closer tolerances are possible for certain dimensions—although the specification of larger tolerances, where close limits are not required, may result in a lower cost per piece.

Distribution of Die Cost

When a decision is to be made whether to have a piece produced by die casting or by some other method and cost is a primary consideration, the die cost is sometimes spread over the initial number of castings which will be required.

Even when this is done, it may pay to make a die for as few as 500 pieces in certain instances. In any case, once the die cost has been absorbed, the cost of additional castings will usually be far less than for the production of the pieces by most other methods. Dies for zinc parts are good for at least 500,000 parts and involve practically no upkeep expense.

Order Large Quantities

From three to five hours or more is usually required to set up dies in a die-casting machine, during which time, of course, the machine is tied up. The corresponding expense is properly chargeable against the customer ordering the parts, hence it is economical to order in as large quantities as can be used within a reasonable period.

In the case of dies adapted for the unit system of die casting, however, set-up time is very short, usually only a few minutes, consequently there is a material saving on this score, especially for short-run parts when the unit system is employed.

SAVE DELAYS

ON BEER COOLER DELIVERIES

These Suggestions Will Help You Receive Prompt Deliveries

Manufacturers and Dealers are finding the line of Fedders electrically refrigerated Beer Coolers so complete that they can get just what they want for their particular needs.

Fortunately with years of development work already completed, we were well prepared for volume production. We keenly realize the importance to you of quick deliveries and regret any delays which may have occurred.

To speed up deliveries and eliminate time lost in clarifying your orders, we make these suggestions—

1. Specify definitely on all orders, the motor current requirements for each unit. 110 Volt, 60 Cycle A.C. motors are furnished as standard. D.C. motors at extra cost.
2. Specify the refrigerant to be used with each unit.
3. Specify the correct model number as shown in the New Fedders Beer Cooler catalog now ready.

Just a few of the many Fedders Beer Coolers are illustrated at the left. Write or wire for new complete catalog giving full specifications of the entire line.

PATENTS PENDING

FEDDERS
MANUFACTURING COMPANY
57 Tonawanda St. Buffalo, N. Y.



FEDDERS REMOTE BEER COOLERS

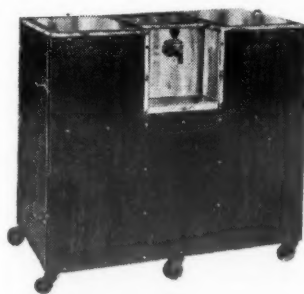
One Spigot Models. Capacities 8 to 33 Gals. per hour based on 15° Temp. Drop.



Two Spigot Models with or without water faucet. For use with two kegs or light and dark beer.

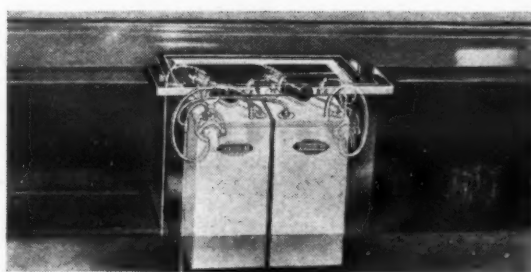
FEDDERS MOBILE TAP

Holds 1/2 barrel. Also has refrigerated bottle compartment. Complete with built-in High Side.



FEDDERS BOTTLED BEER COOLER

A complete self-contained cooler for 12 oz. bottles. No Ice, No Water, — bottles and labels remain clean and dry. Shown with cover removed.



Phantom view showing installation

FEDDERS SELF-CONTAINED COOLING COILS FOR OLD AND NEW BARS

Standard sizes for inserting in ice compartments of old and new bars. Complete low sides with Thermostatic expansion valve.

300 Men Employed By Bar Manufacturer

DETROIT—About 300 men have been put to work here by American Bar Equipment Co., new division of the American Showcase Co., Harry Sheresky, vice president, said April 22. The new organization is building beer-dispensing equipment for beer gardens, restaurants, hotels, and clubs. Day and night shifts are being maintained in Detroit, Adrian, and Muskegon plants of the company.

REPUBLIC STEEL OPENS OFFICE IN HOUSTON

YOUNGSTOWN, Ohio—The Dallas, Tex., district sales office of Republic Steel Corp. has been closed and removed to 2322 Gulf building, Houston, Tex., N. J. Clarke, vice president in charge of sales, announced recently.

SINCE THIS INDUSTRY
WAS IN THE BLUEPRINT
STAGE—MILLER HAS
TACKLED AND SOLVED
ALL ITS RUBBER
PROBLEMS



"Miller
Knows
Rubber"

IF IT'S RUBBER . . . Miller Will Find You The Answer

THE technical staff maintained by Miller exclusively for the service of the refrigeration industry, has worked closely with every important manufacturer of refrigerators since the birth of the business.

Developing special compounds for specific qualities, suggesting improvements in their design, spotting possible economies—these are daily routine with us. The strictest professional respect for confidential data is one of the reasons why Miller is an integral part of the production engineering department of most leading manufacturers.

If you seek a rubber compound free from odor, that will not absorb moisture, that will not deteriorate with age, that will resist oil and grease—or if you have a peculiar problem in design of a rubber part—let Miller do your worrying for you.

If we have not already a formula or a blueprint that answers the purpose, we will find one.

Miller Rubber Products Co., Inc.
Akron, Ohio

MILLER KNOWS
REFRIGERATION

Miller

KELVINATOR ORDERS ESTABLISH RECORD

DETROIT—Orders received by Kelvinator Corp. during the first three weeks of April exceeded by 23.2 per cent those received during any similar period in the entire 19 years the company has been in business, according to George W. Mason, president of the organization.

The company's plants in Detroit and Grand Rapids are working day and night, and more workers are now employed than at any time in the past, says Mr. Mason. Unfilled orders now on file exceed those on hand at any time in the past three and one-half years, he adds.

Grunow-Illinois Co. Appoints Dealers

CHICAGO—The following dealer appointments in outlying towns in the Chicago area have been announced by L. W. Cohen, president, Grunow-Illinois Co., Chicago distributor of Grunow refrigerators:

E. C. Schmidt, Bartlett, Ill.; Domestic Supply Co., 2113 Cicero Ave., Cicero; Mac Simkins, DeKalb; Downers Grove Refrigerator Sales, Downers Grove; Rakow Bros., Dundee; Barclay Hardware Co., Elgin; Grand Avenue Garage, Fox Lake; Noeske Bros., Freeport; Young's Home Utilities, Glen Ellyn; Andrew & Rennison, Harvard; Renn Motor Sales, Lyons; XL Radio Shop, Niles Center; Leader Furniture & Rug Co., Ottawa; Ruesch Electric Co., Peoria; Vance Maytag Co., 4 Park Ave., Princeton; George D. Lathray, Roseland; Mac Simkins, Sycamore; Hugh M. Kelly Hardware Co., Waukegan.

EIGHT REFRIGERATORS ARE SHOWN IN SAN DIEGO

SAN DIEGO, Calif.—Eight makes of electric refrigerators were on display at the Home Show and Modernization Exposition held here in the municipal pier auditorium April 19 to 23.

Lines displayed at the show were Crosley, Frigidaire, General Electric, Gibson, Kelvinator, Leonard, Norge, and Westinghouse, according to J. Clark Chamberlain, secretary of the local Electric Refrigeration Bureau, which assisted in staging the exhibition.

How a Distributor Operates

As Told by D. G. Connally, Copeland Distributor in Texas

By Elston D. Herron

TYLER, Tex.—Refrigeration and riots have something in common—at least out Texas way.

Writers of he-man days in the old West have left many an amusing tale about the fearlessness of those grim Lone Star men, the Texas rangers. But one story is best:

A Texas town was the scene of a riot. Finally, distressed residents sent a hurry-up call to the rangers, asking for help. Next day, one lanky rider trotted calmly up to the sheriff's office, and walked inside.

Exasperated, the sheriff and his worried fellow citizens demanded, "Is there just one of you?"

And the ranger drawled, "Well, there's just one riot, ain't there?"

Don't Need Any Dealers

D. G. Connally, vice president of Walter Connally & Co. in Tyler, Copeland refrigerator distributor for 12 counties of Texas, has apparently inherited the characteristic of self-sufficiency from his state's early rangers.

For when your reporter asked him, "How many dealers do you have?" his answer, in substance, was:

"We don't need any dealers. There's just one territory, isn't there?"

Connally & Co. has organized a special retail sales set-up with which it can cover its 12-county territory as efficiently as it could with the conventional dealer system used by most distributors, according to Mr. Connally.

Staff of Retail Salesmen

Eight of the 12 counties are sparsely populated, and are consequently quite unproductive from the standpoint of a good sales volume. Other four counties, being more thickly populated, constitute a good territory for intensive selling, said Mr. Connally.

In Tyler, the distributor maintains a staff of seven retail salesmen who sell Copeland refrigerators and a line of radios, washing machines, and small appliances. These salesmen work in Tyler and other towns in the four "good" counties.

The distributor has established a branch sales office in Longview with a staff of three retail salesmen who operate in the class A territory not covered by the Tyler salesmen.

Once each year, the distributor employs a crew of men who spend several weeks making a thorough canvass

of all towns in the eight class B counties.

All good prospects found by the canvassing crew are listed and turned over to the firm's regular retail salesmen, who then travel to the outlying territories and do sales work among those prospects listed as "good" by the canvassers.

Sales at Low Costs

This method, said the vice president, nets a good number of sales at a lower cost than would be involved in doing effective promotional work among dealerships—a cost, in fact, which is only a slight addition to that arising from routine operation of the sales staffs in Tyler and Longview.

Two service men are stationed in Tyler, and one in Longview to install and service all units sold by the distributor's salesmen in any part of the territory.

Pay on Straight Commission

Mr. Connally believes he has found the ideal way to pay salesmen. They are paid on a straight commission basis, but receive their commissions on each sale only as payments on the appliance sold are made by the customer.

Salesman receives one half of the down payment as a part of his commission, and then receives one half of each following instalment until the total amount of his commission has been paid.

Advantages to System

This system has three advantages, Mr. Connally pointed out:

1. It encourages salesmen to secure down payments larger than they would usually ask from the customer.

2. Salesmen will make more after-sale calls on customers to assure regularity in payments—which is beneficial to the distributor because the customers are good prospects for other appliances and are good sources for new prospects.

3. It improves the salesman's spirit, because his income is received in numerous sums paid every few days, rather than in a lump sum each time he makes a sale. This usually prevents a salesman from being completely "broke" and low in spirit. He does not have so much money to spend at any one time, but his income is consistent.

Since its adoption, this system of payment has noticeably increased the

size of down payments and monthly payments, according to the distributor.

Each salesman receives a bonus for cash sales, and at certain seasons when the distributor wishes to do some special sales promotion or clean up stocks, other bonuses are offered on some appliances.

No Sales Contests

"No sales contests for us," this man declared. "A bonus pays a salesman for what he does. He's working against his own record. But in a sales contest, someone has to lose to someone else. And no salesman—I don't care how good a sport he is—is any better for being a loser."

July and August are the poorest months for refrigerator sales in Texas, according to the distributor. He attributes this to two things: "People get through the first hot months without an electric refrigerator, and then decide that there's no need to buy a unit in the middle of the season. And the salesmen don't do as much work, either. It's too hot."

In the fall, sales increase because Texans are receiving money from their cotton crops and have more money to spend, Mr. Connally said. "And in the early winter, a good number of sales are made because the salesmen are working hard to get extra money for Christmas."

Believes in Advertising

Connally & Co. is a firm believer in the value of advertising. It advertises by radio, billboard, and newspaper, and makes intensive use of moving picture advertising.

From the Motion Picture Advertising Service Co. of New Orleans, the distributor secures "trailer reels" showing Copeland refrigerators being used in homes. These films are shown in Tyler's three theaters, and Mr. Connally estimates that 10,000 persons see the advertisements each week.

The company does not hold exhibitions at fairs, shows, etc., and does not believe that food shows and cooking schools are of much value as means of promoting sales. "For the same money we would spend in such projects, we can buy good, solid advertising," Mr. Connally said.

This distributor said that his turnover of salesmen is very low. "That is because the men know they can make more money selling refrigerators and other appliances than they could make at other jobs available in our territory, especially considering the amount of time they put in."

And the last thought brought this comment from him: "The average specialty salesman doesn't work nearly as hard as most people think. He doesn't put in as many hours as do most floor salesmen."

Export of Refrigerators

February, 1933, Shipments Reported by the Bureau of Foreign and Domestic Commerce, Washington, D. C.

	Electric Household Refrigerators	Value	Electric Commercial Refrigerators Up to 1 Ton	Value	Parts for Electric Refrigerators	Value
Austria	10	\$ 380				
Belgium	113	6,382	70	\$ 6,497	\$ 220	8,363
Czechoslovakia	1	135				81
Denmark	1	1	4	566		2,183
Finland	1	1	1	87		46
France	61	8,335	74	9,224		7,639
Germany	79	4,317	51	3,502		8,962
Greece	2	233				15
Irish Free State	2	233	54	6,201		285
Italy	21	2,025	3	163		3,311
Malta, Gozo, and Cyprus	1	163				
Netherlands	66	4,057				2,380
Norway	1	1				756
Portugal	7	682				413
Rumania	6	1,126				15
Soviet Russia in Europe	6	1,126				2,367
Spain	61	6,382	4	406		2,043
Sweden	38	1,976	9	1,152		8,857
Switzerland	47	2,262	44	4,443		14,518
United Kingdom	44	2,407	35	2,828		203
Yugoslavia	21	1,418	16	2,401		15,844
Canada	45	3,069	15	1,027		
British Honduras	1	114				25
Costa Rica	1	83				120
Honduras	1	83				120
Nicaragua	3	572				805
Panama	101	10,582	6	1,220		4,411
Mexico	15	1,306	12	2,398		44
Newfoundland and Labrador	1	1				220
Bermuda	4	479				29
Barbados	3	261	1	241		421
Jamaica	2	145				57
Other British West Indies	55	4,938	4	847		3
Dominican Republic	4	494				188
Netherlands West Indies	10	1,242				4,784
Haiti, Republic of U. S.	5	404				5,130
Virgin Islands of U. S.	3	362				69
Argentina	114	10,304	87	3,459		146
Brazil	249	18,304	18	9,521		231
Chile	1	88				103
Colombia	16	1,386				177
British Guiana	2	225				1,787
Surinam	4	550				250
Peru	16	1,117				34
Uruguay	1	1	2	344		451
Venezuela	2	327	3	623		1,796
Aden	1	97	1	363		3,104
British India	115	8,503	17	2,718		44
British Malaya	25	2,329	1	363		591
Ceylon	5	445				101
China	37	4,851	4	524		453
Netherlands East Indies	35	3,182	7	1,635		1,831
Hong Kong	36	4,835	2	186		9
Japan	10	430				25
Palestine	1	120				17
Philippine Islands	7	499	16	2,513		4,888
Syria	20	2,302	36	3,512		9
Turkey	5	571				34
Other Asia	1	77				8
Australia	1	110				23
French Oceania	1	110				8
New Zealand	1	110				245
Belgian Congo	1	110				241
British East Africa	4	279				2
Union of South Africa	243	26,571				1,583
Other British South Africa	1	110				11
Gold Coast	1	110				
Nigeria	12	1,645	2	502		
Egypt	19	1,645				
Algeria and Tunisia	14	1,326				
Other French Africa	31	3,323	11	978		
Morocco	5	352				
Canary Islands	1	93				
Other Spanish Africa	1	93				
Total	1,862	\$162,787	612	\$ 70,378		\$114,233
Shipments to Hawaii	84	\$ 8,511	6	\$ 778		\$ 2,063
Puerto Rico	25	\$ 3,360	1	\$ 385		\$ 737

ALCO THERMO VALVE

METHYL CHLORIDE - F-12
SULPHUR DIOXIDE

A NEW thermostatic valve—that can be installed in any position or location—and in any temperature—the control always resides in the thermal bulb—even if the body of the valve is subjected to a lower temperature.

Write for Bulletin No. 129

ALCO VALVE CO., INC.
2629 Big Bend Blvd. St. Louis, Mo.
New York Los Angeles San Francisco Dallas



Type NR

Newly Developed Special Larkin Coils for Low Ceiling Coolers

Now Over 38,000 Larkin Coils in Daily Use

TYPE LC is an ingeniously devised LARKIN COIL for the popular low ceiling mechanically refrigerated cooler. This efficient COIL comes in 12 sizes; for coolers, 6'x5' to 10'x12'.

There is a LARKIN Vertical-Surface Aluminum-Plate COIL for every purpose. Immediate deliveries on 95 standard models and sizes from Brooklyn, Chicago and Atlanta stocks . . . special sizes only from Atlanta.

WAREHOUSES
Brooklyn - Chicago

STANDARD FACTORY EQUIPMENT WITH

COPELAND : SERVEL : WILLIAMS ICE-OMATIC : CARRIER-BRUNSWICK-KROES-CHILL : MAYFLOWER : UNIVERSAL : KULAIR : ZEROZONE : M & E : MODERN : STARR : MOHAWK : APEX : DICELER : LIBERTY : H. M. Robins Co., Export and Others.

LARKIN

Refrigerating Corporation

Originators and Manufacturers

ATLANTA, GA., U.S.A.

U.S. PATENT No. 1,776,235.



ANSUL SULPHUR DIOXIDE

There are warehouse stocks of Ansul Sulphur Dioxide located in 40 cities for convenient distribution and emergency requirements. The availability of this product is characteristic of Ansul service. Write for complete list of distributors.

ANSUL CHEMICAL CO.
MARINETTE, WISCONSIN

SELL!

a completely equipped
REFRIGERATOR

FEDERAL REFRIGERATOR FURNISHINGS

The only complete line—saves space—saves food—saves money

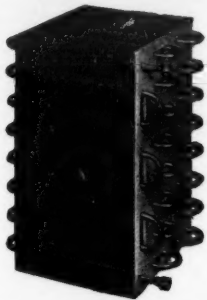
They increase the capacity and efficiency of every refrigerator

FEDERAL ENAMELING
& STAMPING CO.

World's Largest Manufacturer of Enamelled Kitchenware
PITTSBURGH - PENNSYLVANIA

A NEW FIN COIL by PEERLESS

Wedge-locked and edge-locked aluminum fins on tinned copper tubing for methyl chloride, sulphur dioxide, F-12, etc.—aluminum tubing for ammonia. Absolute Metal to Metal Contact. A Superior Coil in which Soldered Return Bends have been eliminated. Priced to meet 1933 conditions. Write—Wire for Catalog.



PEERLESS ICE MACHINE CO., 515 W. 35th St., Chicago, Ill.

"REMPE" SUPER COLD FIN COILS

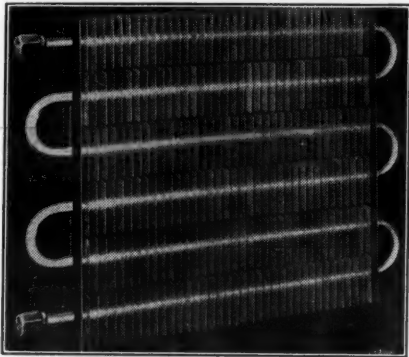
for

Methyl Chloride,
Ammonia, F-12 and
Sulphur Dioxide

REMPE "FIN COIL" CO.

3000 W. CARROLL AVE.

CHICAGO KEDZIE 0483 ILL.



We carry a complete stock of
EVERYTHING IN REFRIGERATION

including

FEDDERS COMMERCIAL COILS

Thermostatic Expansion Valves, Tubing,
Manifolds, Fittings, Controls, etc.

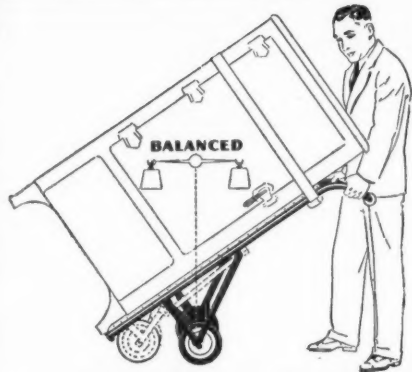
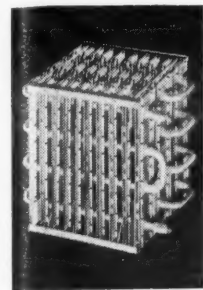
Save money, time and work—Buy everything from
one source

MELCHIOR, ARMSTRONG, DESSAU CO.

116 BROAD ST.
NEW YORK

1135 CALLOWHILL ST.
PHILADELPHIA

STATLER BLDG.
BOSTON



Hercules had nothing on you

With a Balance Truck you can handle refrigerators, heavy boxes, stoves, crates, etc., with ease. The truck carries the load with no strain on your arms. The padded nose piece has instant, exact adjustment. Write today for details.

We also manufacture the Caster X-70
Refrigerator Trucks

Self-Lifting Piano Truck Co.

Findlay, Ohio

Manufacturers of Trucks for 33 Years

KRAMER REFRIGERATION PRODUCTS

ALL-COPPER COMMERCIAL EVAPORATORS

"Hot-Dip" thermal bond between every fin and every tube

DOMESTIC EVAPORATORS

In 2, 3, 4 and 5 tray sizes with Chrome or Porcelain Cover Plates

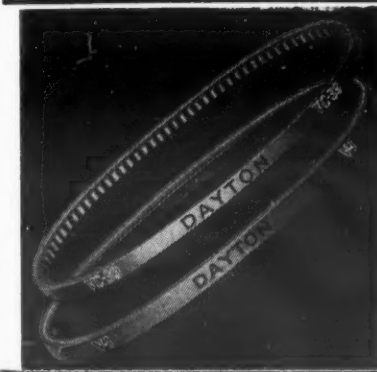
CONDENSERS for HIGH SIDES

TRENTON AUTO RADIATOR WORKS

241 W. 68th St.
New York, N.Y.

TRENTON, NEW JERSEY

5145 Liberty Ave.
Pittsburgh, Pa.



Dayton V-Belts

For all makes and types of refrigerators. There is a stock near you. Ask for price list and name of your nearest distributor.

THE DAYTON RUBBER MFG. CO.

Dayton, Ohio

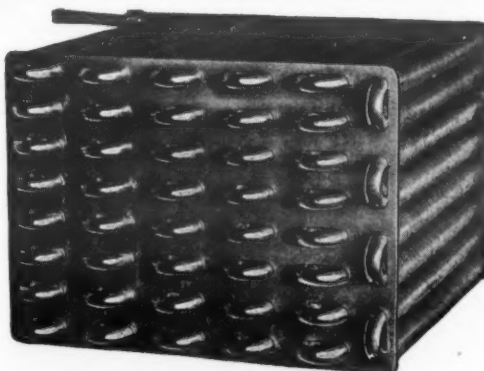
The World's Largest Manufacturer of V-Belts

ROME EVAPORATORS

Highest Efficiency
With Smallest Number
of Joints

Rome-Turney Radiator Co.
Rome, N.Y.

Makers of Rome Condensers and
Helical Finned Tubing



SUBSCRIPTION ORDER

BUSINESS NEWS PUBLISHING CO., 550 Macabees Bldg., Detroit, Mich. 1933

- ☐ Enclosed is remittance for \$.....
☐ Please enter my order for COMBINATION OFFER NO. at \$.....
☐ Enter subscription to Electric Refrigeration News ☐ 1 Year \$3.00. ☐ 2 years \$5.00.
☐ Enter subscription to Refrigerated Food News ☐ 1 Year \$1.00. ☐ 2 Years \$1.50.
☐ Send Refrigeration Directory and Market Data Book including Supplement. \$1.00 per copy.

Name

Address

City State.....

ERN 4-26-33

QUESTIONS

Low-Temperature Test Refrigerators

No. 1163 (Refrigerating engineer, New York)—"One of our good customers in Czechoslovakia writes us as follows:

"As you may know we regularly work with the various government offices. Technical problems are submitted to us to be solved which do not directly apply to our compressors, but which we must handle as a favor to these men.

"We have been asked several times to supply an apparatus which could be used by professors of a clinic to obtain a strong minus temperature (down to possibly -60° C.) for quick cooling of small preparations, or to obtain such temperatures in small boxes. The use of a complete plant would be too expensive because such tests are made but seldom.

"We assume that American apparatus has been developed to utilize CO₂ in steel bottles, and that you can offer us your thermostatic valves to regulate the temperature automatically to plus or minus 3° C. on such small plants. We should appreciate your supplying this data as quickly as possible, as we have an inquiry for equipment to test measuring apparatus in a refrigerator of the following outside dimensions: 60x60x100 cms. in temperatures of -60° C."

"Can you tell us if there is any reasonably priced equipment available in America to obtain this temperature?"

Holmes Refrigerator

No. 1164 (Georgia)—"Can you furnish us with any information on who manufactures, or did manufacture, the Holmes electric refrigerator? Is there any source of service information on this refrigerator? Can you tell us what refrigerant is used, and how the machine is charged?"

Answer—This refrigerator was manufactured by Holmes Products, Inc., Bridgeport, Conn., which went out of business about three years ago. Ethyl chloride was the refrigerant used. For some time after the demise of the Holmes company, replacement parts and service information were available from J. H. Lerner, 184 State St., New Haven Conn., and American Hardware Stores, Hartford, Conn.

Ice Cream Cabinets

No. 1165 (Distributor, New Jersey)—"Will you please furnish us with names and addresses of companies selling ice cream cabinets, fountains, and fixtures?"

Answer—A complete list of ice cream cabinet manufacturers is published on page 54 of the REFRIGERATION DIRECTORY and MARKET DATA BOOK. Soda fountain manufacturers are listed on page 359 of the same book.

Cabinet Lights

No. 1166 (Service company, Missouri)—"Kindly advise us who supplies interior electric lights such as used on Leonard, Apex, Kelvinator, etc."

Answer—Arrow-Hart & Hegeman Electric Co., Hartford, Conn.

Nema Members

No. 1167 (Dealer, Indiana)—"Which manufacturers belong to the Refrigeration Division of the National Electrical Manufacturers Association?"

Answer—Copeland Products, Inc., 332 Cass Ave., Mt. Clemens, Mich.; Crosley Radio Corp., Cincinnati, Ohio; Frigidaire Corp., Dayton, Ohio; Gibson Electric Refrigerator Corp., Greenville, Mich.; Kelvinator Corp., Detroit, Mich.; Norge Corp., Detroit, Mich.; Servel Sales, Inc., Evansville, Ind.; Trupar Mfg. Co., Dayton, Ohio; General Electric Co., Electric Refrigeration Department, Hanna Bldg., Cleveland, Ohio; Grigsby-Grunow Corp., 5801 Dickens Ave., Chicago, Ill.; Universal Cooler Corp., 7424 Melville Ave., Detroit, Mich.; and Westinghouse Electric & Mfg. Co., Electric Refrigeration Department, Mansfield, Ohio.

Compressor Manufacturer

No. 1168 (Engineer, Pennsylvania)—"Kindly inform us where we may purchase refrigeration compressors, assembled or knocked down. We wish to assemble quite a few compressors under our own name, and need this information as soon as possible."

Answer—Brunner Mfg. Co., Utica, N. Y.; Universal Cooler Corp., 7424 Melville Ave., Detroit, Mich.

Water Cooler With Ice Cubes

No. 1169 (Grand Rapids, Mich.)—"Will you kindly advise us where (locally if possible) we can get an electric water cooler with a compartment for ice cubes and storage of a few bottles. At the present time we are renting a water cooler with the water bottle on top."

Answer—Gibson Electric Refrigerator Corp., Greenville, Mich., has a water cooler with ice cube-making provision and bottle storage capacity.

Refrigerator for an Automobile

No. 1170 (Surgeon, Kansas)—"Can you advise me where I can buy a refrigeration unit for an automobile, and the approximate installation cost? Popular Mechanics magazine suggested that you could help me."

Answer—Presumably you are seeking a small refrigerator to be used on a passenger automobile for camping trips, etc. Little has been done in the development of such a system, and nothing of this sort is being made on a production basis. You might get in touch with local dealerships of various refrigerator manufacturers, and ask if they would attempt such an installation.

Keg Beer Coolers

No. 1171 (Distributor, Indiana)—"Where can we buy a keg beer cooler? Please reply Western Union collect."

Answer—Fedders Mfg. Co., 57 Tona-wanda St., Buffalo, N. Y.

Commercial Equipment

No. 1172 (Manufacturer, Ohio)—"We are desirous of getting in touch with the most prominent manufacturers of cooling equipment for commercial refrigerators. Can you give us names and addresses of the leading American companies in this field?"

Answer—See the REFRIGERATION DIRECTORY and MARKET DATA BOOK.

'Dricool' or 'Icecool'

No. 1173 (Engineers, New York)—"Please advise who makes 'Dricool' or 'Icecool' room coolers."

General Regulator's Address

No. 1174 (Manufacturer, New York)—"Where can we address the General Regulator Corp. of Chicago, which makes the new Duo-Gyrovan fans described in the April 12 issue of ELECTRIC REFRIGERATION NEWS?"

Answer—2608 Arthington St., Chicago, Ill.

Cold Storage Plants

No. 1175 (Maine)—"We are in the market for a cold storage plant, preferably of the ammonia compression type, which would have sufficient capacity to handle 5,000 barrels of apples, maintaining a temperature of about 32° F. Would you forward this inquiry, or refer me to any of your advertisers handling this type of equipment?"

Answer—Baker Ice Machine Co., 1522 Evans St., Omaha, Neb.; Peerless Ice Machine Co., 515 W. 35th St., Chicago, Ill.; and York Ice Machinery Corp., York, Pa. A complete list of companies making this type of equipment can be found on page 323 of the REFRIGERATION DIRECTORY.

Rubber Ice Cube Trays

No. 1176 (Dealer, Connecticut)—"Please advise us if you know of any company making rubber trays to fit Grunow and Norge refrigerators."

Answer—Inland Mfg. Co., 15 Coleman Ave., Dayton, Ohio.

Door Gaskets

No. 1177 (Distributor, Kansas)—"Will you please advise us, or forward this inquiry to, a company that can supply rubber 'air cushioned' refrigerator door gaskets."

Answer—Miller Rubber Products Co., South Main St., Akron, Ohio.

Kerosene-Operated Refrigerators

No. 1178 (Virginia)—"Will you kindly furnish me with names of three or four manufacturers of oil-burner (kerosene) refrigerators? I am interested in buying one for my store, and may consider handling them if I find a make that works satisfactorily."

Answer—Gibson Electric Refrigerator Corp., Greenville, Mich., and Perfection Stove Co., 7609 Platt Ave., Cleveland, Ohio.

Kold-Hold Refrigeration System

No. 1179—"Will you be kind enough to advise us by return mail the manufacturer of the Kold-Hold system for refrigerated trucks."

Answer—Kold-Hold Mfg. Co., Capital Bank Tower, Lansing, Mich.

Data on Refrigerants

No. 1180 (Market Research, New York)—"Please let us know if you have a booklet describing in detail the various gases used by makers of household electric refrigerators."

Answer—See the Dec. 30, 1931, issue of ELECTRIC REFRIGERATION NEWS. This issue contains a complete report of an extensive series of comparative tests on common refrigerants.

PHILADELPHIA DISTRIBUTORS HOLDS SALES SCHOOLS

PHILADELPHIA—Mayflower refrigeration salesmen in the Philadelphia territory met on the night of March 30 for the first of a series of weekly sales schools to be sponsored throughout the year by Philadelphia Distributors, Inc., distributor of Mayflower refrigeration in this area. The meetings are being held in the distributor's Eleventh St. salesroom.

CLASSIFIED

PAYMENT in advance is required for advertising in this column.

RATES: Fifty words or less, one insertion \$2.00, additional words four cents each. Three insertions \$5.00, additional words ten cents each.

POSITIONS AVAILABLE

WANTED: Representatives for our thermostat repair service. Protected territory available as side line for men now calling on domestic refrigeration service trade. Liberal commissions, no outlay. Hallectric Laboratory, 1793 Lakeview Road, Cleveland, Ohio.

INDEPENDENT SERVICE COMPANIES

MANUFACTURERS are constantly inquiring for reliable local service organizations prepared to handle installation and maintenance work in communities not served by their regular distributors and dealers. Your business card in this column will bring this profitable business direct to you. For only \$10.00 you may carry a 4-line advertisement for three months. Ask for details. Address Electric Refrigeration News.

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Wanted at once, energetic men with commercial refrigeration knowledge to become distributors for DeFROSTaire, sensational new air-conditioner for walk-in refrigerators in meat markets, produce stores, packing plants, breweries, etc. To date, demonstrations have resulted in 90% sales. Requires no change in refrigeration system. Easy to install. Cuts operating costs.

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Write for full details

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